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ELECTRIC RAILWAY JOURNAL

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W. Kesley Schoepf, one of the best known traction authorities in the country, who retired from the presidency of The Cincinnati Traction Company when that company was taken over by The Cincinnati Street Railway Company on November 1, 1925. One of Mr. Schoepf's less generally known achievements was his eminently successful personnel relations, fully twenty per cent of The Cincinnati Traction Company's employes at the time of his retirement having individual service records of twenty-five years or more.

Photograph by Poynter

...and there on his desk was a piece of ELASTITE!

SHORTLY after the sale of the Cincinnati street railway properties from The Cincinnati Traction Company to The Cincinnati Street Railway Company, which relieved W. Kesley Schoepf, President of The Cincinnati Traction Company, from the responsibilities of operating the street railway lines, an old-time friend dropped into his office to offer congratulations on the success of a dinner given by Mr. Schoepf to officials and employes of the operating companies who had been associated with him as co-workers for the quarter century period covered by Mr. Schoepf's residence in Cincinnati.

Mr. Schoepf's friend was impressed by the fact that for the first time in the thirty-five years of his acquaintance, the retiring executive's desk was clear of business papers. True, there were plans for improvements in his country estate at Sheffield Farm, but the only article in sight in any way relating to his traction interests was a section of rail with the Carey Elastite System of Rail Filler. Mr. Schoepf's friend commented on the presence of this model, which brought from Mr. Schoepf an emphatic explanation.

"I have been trying for over thirty years to find suitable material to fit in next to street car rails to prevent a rapid deterioration on street paving within the track area, not only as an economical proposition, but to bring about an improved appearance of both the tracks and the street pavements.

"About 1915 a representative of The Philip Carey Company brought to the attention of our Engineer of Maintenance of Way a material for this purpose, which he termed an Elastite Rail Filler. Later this matter was brought to my attention. I was so impressed with the possibilities that I decided to experiment with some installations. In the meantime, I also concluded to try creosoted wood filler fitted into position along the rail. This, however, did not give the results anticipated and since The Philip Carey Company had, by this time, made rapid strides in the matter of production and corresponding reduction in cost, I felt impelled to close a long term contract with that company to use its material in all reconstruction and maintenance of tracks.

"This material is an outstanding improvement in track construction methods and I frankly believe it a radical departure from some of the old methods. It is proving a solution of one of the greatest problems encountered in the maintenance of paving in the track area and in the reduction in noises due to operation of cars."

THE PHILIP CAREY COMPANY, *Lockland*, Cincinnati, Ohio

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Electric Railway Journal

Consolidation of Street Railway Journal and Electric Railway Review

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MORRIS BUCK, *Managing Editor*

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Comprehensive Program for Co-ordination by New Haven

ELECTRIC railway, steam and bus operation are all to be tied in together by the New Haven Railroad with tickets good for interchangeable traffic. It is no mean program, this upon which the road has entered, but there is no desire here to do more than to indicate its extent. Certainly in Connecticut the passenger will be able to go almost anywhere on this combined system. This is true to a lesser degree in Rhode Island and Massachusetts, but it is true, nevertheless. In Massachusetts especially has a division of territory been arranged. With the past there is very little concern. But history does repeat itself. The New Haven opposed the trolley at its inception, only later to take it over and turn it to its own advantage. The New Haven opposed the bus at its inception, only now to take over many lines that fit into its revised scheme of things.

It is, of course, unfortunate in some ways that the New Haven did not earlier see the bus in its proper light. But why dwell upon that? We do not live in the past, except those of us who have nothing else left in which to live. Despite the old adage, opportunity often knocks at the door many times. This is what it did in the New Haven case. Even now Mr. Buckland, who announced the road's new policy, appears to be overcautious. He says branch line service costs the road $1.25 a mile, while the revenues are only 35 cents a mile. He does not look to the bus to increase the gross revenue, but he does expect greater net because the bus will cut expenses. Students of the bus who have followed it closely would be inclined to say that Mr. Buckland will probably be surprised. It certainly seems likely that he will be.

One thing is certain. The type of branch line to which Mr. Buckland has referred was doomed years ago. It had come to be an anachronism, with its stodgy, ill-painted, ill-ventilated cars of the vintage of 1875. The contrast between those vehicles and the modern bus was too great—too great for the branch line in communities that have grown, have model houses in their outlying and country districts, radios and electric lights and in which the Saturday night bath in the family washtub went out of fashion a quarter of a century ago.

This is, perhaps, homely phrasing, but it does not exaggerate the contrast between the two—modern bus and the branch line steam car. The steam railroad itself did this very thing. In the case of the New Haven it carried the passenger from New York or Boston to Bridgeport, Hartford, Willimantic or Putnam in regal style and then dumped out the one who had to go into the interior and expected him to complete his trip in a troop train. Naturally, the passenger rebelled. He wasn't interested in the rights or wrongs of the situation. He seldom is. His concern is in reaching his destination in the quickest possible way and in the most commodious fashion. There was a time when he wasn't a free agent, but the development of the automobile emancipated him. After all, the possibilities of co-ordination are great—much greater than Mr. Buckland's statement would seem to indicate. The only fault to be found with him is that he errs too much on the side of conservatism. Still his announcement is definite and conclusive. No other similar statement made in many months is more significant than is that of the New Haven Railroad.

Pinchot Again Assumes the Rôle of Umpire

HOW it can be expected that a public service commissioner can reconcile his oath of office to decide honestly upon the intricate matters coming before him with the Governor's wishes in the matter if they should not be in accord is not well understood. The courts have often held that such regulatory bodies function for the legislative and not the administrative branches of our government, and administrative interference if not successfully resisted can only produce chaos.

Elsewhere in this issue is a story outlining the final decree of the Pennsylvania commission on the Philadelphia Rapid Transit fare case, just concluded, which has been on the docket for a year and a half.

Not satisfied with the rebuff he received from the Supreme Court when it overruled his dismissal of Commissioners Benn and Shelby, Mr. Pinchot again appears to have vented his personal feelings by withdrawing the reappointment of John L. Stewart, one of the seven present commissioners. The nomination for reappointment had been made but a few days before. Mr. Stewart voted in favor of the order granting the 8-cent fare, and the nomination was withdrawn immediately. Such seems to be the price Mr. Stewart paid for performing his duty under oath.

Without reference to the justice or reasonableness of the commission's decision, there is no evidence apparent that this body or any of its members is guilty of misfeasance or malfeasance of office. If there should develop such evidence the law prescribes more appropriate ways to punish the members than by dismissal by the chief administrator. Even if the Governor had evidence that the P.R.T. should not have received the increase, the hearings covered a period of a year and a half and the place to present such evidence was from the floor of the hearing room.

The very creation of public utility regulation was to render honest decisions based on facts. An attempt to sway judicial opinion by threat or coercion strikes at the very heart of such regulation, if not of law and order as a whole. Such policies supposedly passed with feudalism. They were the cause of overthrowing despotic Russia. To be sure it is a far cry from Pinchot to Romanoff, but tendencies to revert to such times are disturbing, nevertheless.

Progress Being Made in Control of Interstate Buses

IMMEDIATELY following the decisions by the United States Supreme Court in the case of Buck vs. Kuykendall (45 Sup. Ct., 324) and in that of George W. Bush & Sons Co. vs. Maloy et al. (45 Sup. Ct., 326, 327), it was quite generally assumed by many people that individual states, acting through their public utility commissions, could not exercise any jurisdiction over interstate bus lines or at least those which did not do any intrastate business.

Actually this conclusion was far from being warranted by the decisions mentioned. The Supreme Court, in the Buck case, distinctly said that state regulations adapted primarily to promote safety upon the highways and conservation in their use, where the indirect burden imposed on interstate commerce is not unreasonable, are valid under the federal Constitution. In both of these cases, however, questions of this kind were not involved. Both Buck and Bush were willing to comply with all the laws governing common carriers in the states concerned, Washington and Maryland. The trouble arose over the fact that the state commission in each case declined to permit operation without a certificate of convenience and necessity, which it refused to grant because the routes in question were being served by existing carriers. It was prohibition of operation for this reason that was stated to be within the power of Congress and not that of the individual states.

As yet, Congress has made no attempt to exercise the control which is beyond that possessed by the individual states. While Congress has empowered the Interstate Commerce Commission to supervise with great strictness the operation of interstate rail lines, it has neglected to authorize this commission or any other to exercise similar control over the interstate bus lines. Such a control over rates, routes and schedules is necessary in the interests of the public, as well as of the carriers themselves, and this is the reason that a bill is now pending in Congress to bring about such a control.

Existing Powers of States Being More Closely Defined

WHILE this discussion over a federal bill is taking place before Congress, the existing powers of states over interstate carriers are being more closely defined by the courts. These are the powers to which the Supreme Court referred in its Buck and Bush decisions already mentioned. It has been held by the Rhode Island Supreme Court, for instance, that the Public Service Commission of that state may apply regulations enforced upon similar intrastate users in regard to the number of passengers which such an interstate bus may carry at any time, or the routes it may take, as these regulations are in the interest of public safety and order and the conservation of the highways. The Massachusetts Supreme Court, in decisions rendered Jan. 5, 1926, has held that the fact that a bus line did some interstate business did not affect the extent of the regulation which the state could exercise over all of its intrastate business, and the argument that these regulations on its intrastate business might affect its profits as an interstate carrier did not make the regulations invalid.

Another particularly illuminating recent decision is one rendered by the Supreme Court of Ohio on Dec. 1, 1925, in the case of the Cannon Ball Transportation Company vs. Public Utilities Commission of Ohio (149 N. E. Rep., 713).

After reviewing the Buck and Bush decisions, Chief Justice Marshall of the Ohio Supreme Court points out that although the mode of transportation by motor bus is very recent, the question of the division of control by nation and state over interstate carriers is older than even the steam railroads and was thoroughly reviewed by the United States Supreme Court by Mr. Justice Hughes in the Minnesota rate cases. Thus, the state may not be able to tax interstate commerce, prescribe rates to be charged for it, or subject it to requirements beyond the bounds of suitable local protection. But it may require the right of pilotage in the case of interstate water carriers, regulate wharfage charges, exact tolls for the use of artificial facilities provided under its authority, take steps to prevent the introduction or spread of disease by interstate carriers, safeguard the inhabitants of the state from fraud and imposition, provide damages for wrongs or death by such carriers when the wrong occurs within the jurisdiction of the state, enact laws safeguarding property and life, and do many other similar acts, unless they are in conflict with valid laws of Congress.

It is obvious that the principles of commission regulation, which have proved so necessary for rail transportation lines, should be equally necessary for interstate bus lines. That these will come there is no doubt. That it is also closely in line with the approved policies of the past is also clear from what has just been said.

Competition with the Private Automobile Is Real Problem

CITY railways in the larger metropolitan districts seem to have attained some degree of success in competing with the privately owned automobile. In fact, the latter vehicle might be said to have been its own worst enemy, since its extensive use has caused congestion to the point of traffic stagnation. This condition is by no means so apparent in the smaller communities, however, and it behooves railway officials there to remain figuratively "on their toes" in meeting the problem more than half way. Private cars in use at the present time are estimated at 17,500,000, an increase of a little more than 13 per cent over the figure of a year ago. Much of this increase has taken place in the smaller cities and among farmers and suburbanites, so that the problem has become, if anything, more difficult than ever to meet satisfactorily in communities with less concentrated populations.

Authorities in many of these smaller towns are still meeting any indication of forthcoming traffic congestion by proceeding rapidly to the construction of new streets. In fact, there is probably more truth than fiction in the recent remark of an electric railway president that the only apparent excuse for some new streets was to provide additional free parking space for the convenience of automobile owners. Even though this may be somewhat of an exaggeration, it is certainly true that the conditions which have caused many individuals to give up in disgust any idea of driving through the business sections of the larger cities are still in a rudimentary stage of development in the town of 100,000 or less.

Even in communities of small or moderate size, however, there still is need for adequate public transportation. The railways must take care of the man who

cannot or will not drive his own car to work, of the woman who wishes to do her shopping "downtown," and of the child whose school is beyond comfortable walking distance.

Many economic prophets believe that the present state of national prosperity cannot continue indefinitely at its present unbelievably high level. They say that the economic house of the American people is builded upon the sands, to a certain extent, and that a depression must inevitably follow. This may mean that in the general paring down of luxuries, the abandonment of many private automobiles will naturally follow a downward swing of the pendulum. Then perhaps the railway in the small town will come into its own once more.

But operators cannot afford to sit back in their chairs and wait for the inscrutable workings of Fate to win their battles for them. Much can be done, and is being done, today, through the adoption of light-weight one-man cars and buses, as well as modernization of existing equipment, to speed up service, increase its frequency and make the railways' transportation attractive to the riding public. When this is done Mr. Man or his wife may think twice before taking the family automobile out on a cold and slippery morning in January, or a muddy and equally unpleasant day in August. Sell them thoroughly on the idea of service on the days when they are riding the trolley to save the paint on the family "bus," and much will have been done to encourage their use of the public carriers on the pleasant days as well.

Baltimore Needs to Heed Its Traffic Experts

WITHIN reason Baltimore should heed the advice of the experts who have reported the results of their traffic survey of that city. In one particular especially is there need on the part of the city's civic and commercial interests to play the game and co-operate with the railway and the commission to the fullest extent. This is in the matter of rerouting street cars. Here is where toleration is needed. It is not an easy matter to readjust lines, reroute them and shift traffic arteries. Somebody is going to be hurt. That is inevitable. The damage is going to be temporary, however, and probably in no case will it be very serious. In all such cases the individual here and there is going to conjure up in his own mind calamities that will never occur. Even at this early date there are unmistakable signs of opposition to some of the suggestions. There is just one thing about it. Those responsible for the plans have approached the problem cautiously. Their only desire is to be of the greatest good to the greatest number.

In all matters of this kind the progress that is made depends on the willingness of those affected to put aside petty personal considerations and to work for the benefit of all. Baltimore will benefit only in so far as these purely personal considerations are put aside. In the last analysis anything that is decided along broad, general lines as being best for Baltimore as a whole will be best for Baltimoreans individually in the long run. This should be self-evident. Some good will have been accomplished even though none of the suggestions come to fruition at this time, but it is unbelievable that Baltimore will write itself down as being unwilling to accept the suggestions made.

Giving Young Men a Chance Builds Up Company Morale

BESIDE the question of whether the college man fits into the field of local transportation is the problem of developing a young man's administrative ability. It is a question of the type of man as well as of training, for some men will never be more than dull, weary plodders, regardless of how much information they may have absorbed. Others become so engrossed in the technical details of their particular work that they care little about aspiring to positions requiring administrative ability. But there is always a sufficient supply of men of ambition who need merely the opportunity to develop into first-class operators and department heads.

The old school of street railway transportation was founded before the day of scientific regulation and required a lot of politics. The new school demands more open relations and a greater understanding of the needs of the public. There are very few phases of the street railway industry that are not influenced to some extent by the rising need for closer public relationship. There was a time when we let our lawyers do everything that was needed in that line; as a result the heads of corporations were usually lawyers.

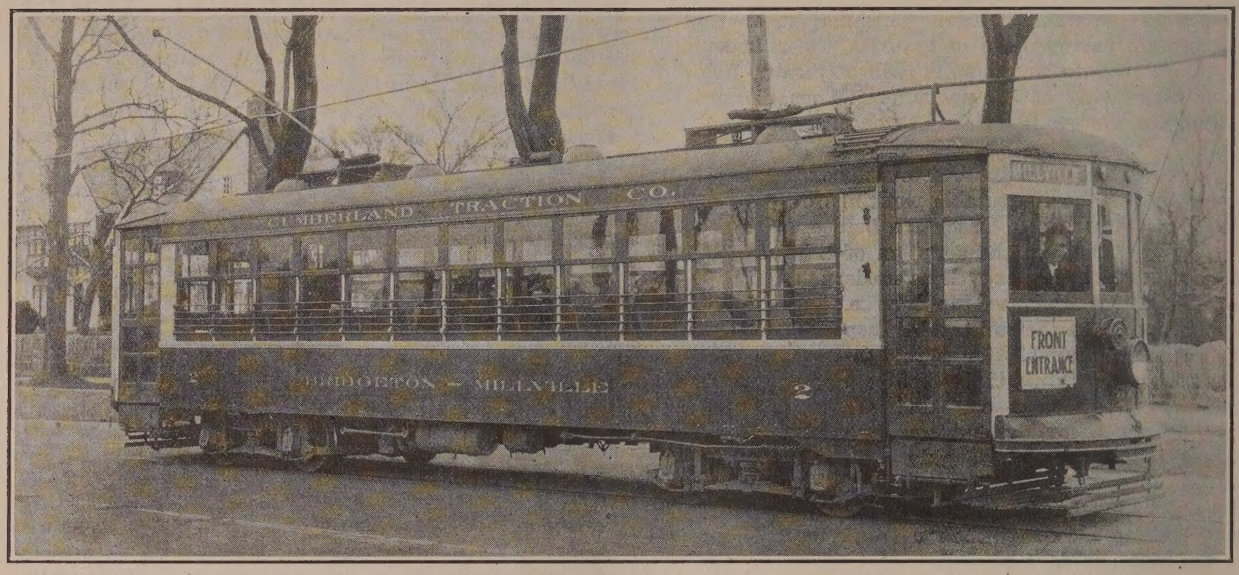
The demand of today is for a spread of the idea of closer public relationship to all phases of the industry from the president down to the platform men. For the work of spreading the idea of public service there are seldom enough old heads to go around. So we must turn to our youth, remembering that the young leaders of today are the old leaders of tomorrow. Frequently the college man is easier to adapt to the making of public contact because of his developed resourcefulness and greater fund of knowledge. But other men of fair education and more than the usual amount of initiative will often suit as well.

As a particular example of how this works out in practice there is a large public utility management corporation which makes a practice of training young men (in this case mostly college men) in its ranks with the idea of developing its own executives. Besides developing its own executives it has developed a number of men who are executives of other large companies. Its properties are managed by comparatively young men. There is exceptionally good co-operation among the various departments, and there are probably few railways as much in the public eye as these because of their startling advances in the industry, and because of their willingness to accept suggestions and to share their knowledge with others. These companies have prospered financially and their public relations are exceptionally good in spite of the fact that many of these companies are obliged to operate under local regulation which is usually unsatisfactory. Results have been brought about not by favorable legislation, but rather by capable and aggressive management.

Give the young man a chance. College man or not, if a young man shows administrative ability he should have the opportunity to develop it early by receiving a little authority. Mere years are not experience. One man with the right opportunity may acquire as much experience in two years as another will in ten. It is well to curb a spirit of ill-founded egotism in a man, but it is another matter to expect him to perform dull drudgery for ten or fifteen years and crush whatever spirit is in him and then to expect him to rise to the occasion when there is need of a minor executive and one is being sought from within the ranks.

New Methods Save a Small-Town Railway

Purchase of Modern Rolling Stock, Improvement in Schedules and Skillful Publicity Resulted Last Year in a 10 per Cent Increase in Riding on the Lines of the Cumberland Traction Company — Operating Expenses Have Been Reduced from 28 Cents per Car-Mile to 21 Cents



Traffic Has Been Substantially Increased by the Operation of Cars of This Type Between Bridgeton and Millville in Southern New Jersey

RESCUED at the last moment from the hands of the junk dealer when operation ceased in the summer of 1922, the electric railway connecting the towns of Bridgeton and Millville in southern New Jersey has been built up during the past three years into a profitable business. This was done by making substantial improvements in the quality of service, by providing better cars and better headways, and by the use of aggressive publicity methods which have kept the railway constantly in the public eye.

Prior to June, 1922, this property, comprising about 40 miles of single track, was owned by the American Railways Company. Under the name of the Bridgeton & Millville Traction Company it operated interurban service between these two towns and local service in the former municipality.

Following a prolonged period of unprofitable operation a request was made to the State Board of Public Utility Commissioners for permission to abandon the entire railway system and sell it for junk. As it did not appear likely that the lines could ever be made to pay their way, this permission was granted. The company ceased operation on June 15, 1922, and began to tear up the rails.

At this time, however, Clayton W. McPherson, a business man of Bridgeton, conceived the idea that the railway could be rehabilitated and made profitable. Against the advice of all his friends he bought it. Since the old company had planned to dismantle the property the price paid was small. Operation of the Bridgeton-Millville line was resumed with the old cars after a suspension of service lasting only three days. Local service, however, was not resumed until some months later.

Public sentiment demanded that there should be no cessation of the interurban operation to Millville. Although the distance between these towns is only approximately 10 miles and a state highway connects them, the public did not feel that bus service would be an adequate substitute for electric railway service. For this reason Mr. McPherson arranged to resume car operation immediately after his purchase.

Concerning the necessity for operation of local electric railway service in Bridgeton the public was not so thoroughly convinced. At the time when service was suspended, there was a somewhat general feeling that independent buses could handle this situation better than street cars. No attempt, therefore, was made then by the new owner to establish any local service. During the course of several months, however, the

RECAPITULATION OF OPERATING EXPENSES, CUMBERLAND TRACTION COMPANY AND ITS PREDECESSOR, CENTS PER CAR-MILE

	1916	1917	1918	1919	1920	1921	1922	1923†	1924	1925*
Way and structures	3.50	2.52	3.95	4.75	6.11	4.84	4.92	2.14	2.87	2.70
Equipment	2.37	2.90	3.40	4.54	6.27	6.52	5.24	3.04	3.24	3.20
Power	3.43	4.86	5.68	5.96	6.37	6.36	5.84	4.95	4.83	4.60
Conducting transportation	4.90	5.64	7.22	8.29	8.74	8.75	8.53	7.12	7.03	7.00
Traffic	0.41	0.34	0.21	0.24	0.10	0.05	0.00	0.01	0.01	0.01
General and miscellaneous	2.80	2.41	2.71	3.47	3.37	3.35	3.47	5.60	3.97	3.50
Total operating expenses	17.41	18.67	23.17	27.25	30.96	29.87	28.00	22.86	21.95	21.10

† Operation of new cars commenced in January, 1923. * Estimated.

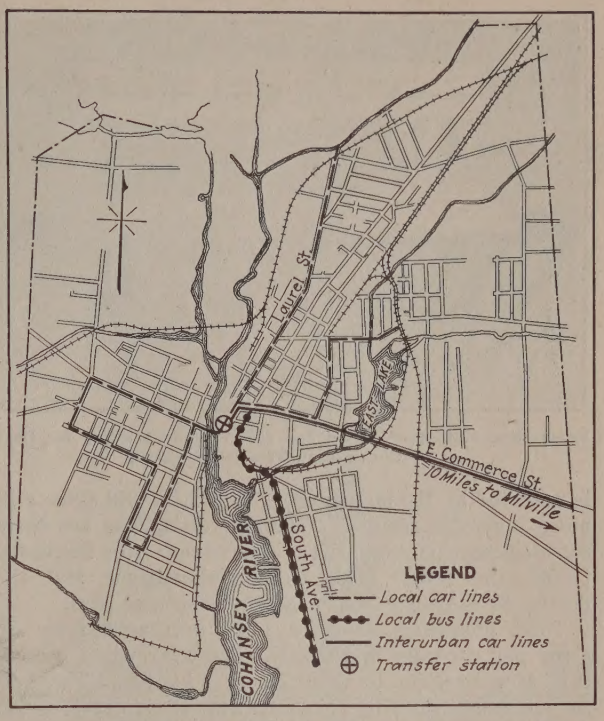
people of the town became disgusted with the character of the bus service provided by the independents and a large mass meeting was held to consider the problem of local transportation. The meeting was practically unanimous in favor of the restoration of railway service. Only three dissenting votes were cast and these came from three independent bus operators who attended the meeting.

As a result of this meeting and the sentiment expressed, Mr. McPherson agreed to undertake local service. To enable the railway to operate without loss the city agreed to release the company from paving charges. On its side the company agreed that if it should fail to make a success of the local service it would remove the rails, but would make no attempt to remove other material in a manner which might disturb the paving.

Rolling stock and track were found by the new owner to be in run-down condition. The track was not so bad, however, but that it was possible to put it in fair operating shape at a moderate cost. It was decided to scrap the old cars altogether and buy new ones. Three light-weight, double-truck, one-man cars were ordered from the J. G. Brill Company. Four Birney cars were also ordered. The double-truck cars were placed in service in January, 1923, on the Bridgeton-Millville line, and in the latter part of May the Birney cars began local operation in Bridgeton.

At present the system consists of two local lines operating three cars in Bridgeton and one local bus line. These all meet at a transfer station in the center of the town, which is also the terminus of an interurban car line to Millville. The present bus route is part of a former car line to Bivalve, 20 miles away. As the new management believed that only a short section of this line was in territory that would support transportation service, bus operation was undertaken within the city and all service suspended outside. Altogether some 15.8 miles of road are now operated. In Millville local service is provided by the Millville Traction Company.

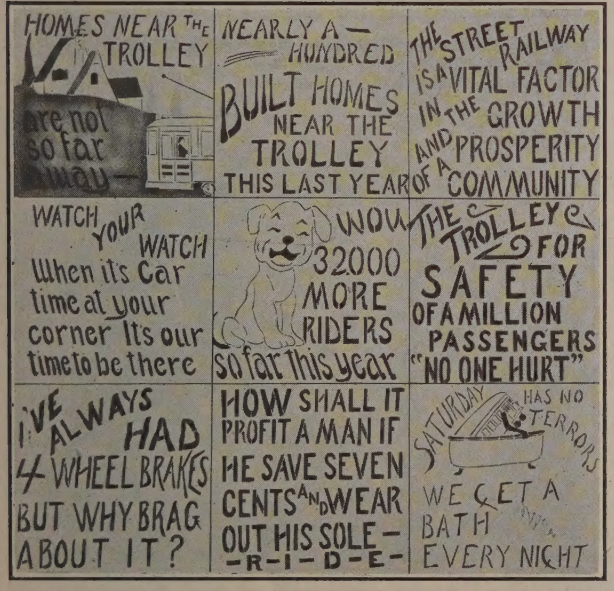
Patronage on all of the car lines has been good ever since service was resumed in 1923. The total passengers carried for that year numbered 608,551, or



Two Local Car Lines and One Bus Line Are Operated by the Cumberland Traction Company in Bridgeton. An Interurban Car Line Connects that Town and Millville

slightly less than the number carried in 1922. This was because local service was not resumed until the middle of the summer. For the year 1924 the number of passengers carried was 895,922. This figure was exceeded during the year just ended by some 87,000, making the total number of passengers 983,000. Last year thus shows an increase of about 10 per cent over 1924, which was the first full year of operation under the present plan.

For the last three months of the year the rate of increase is even greater, being about 16 per cent. It


HOMES NEAR THE TROLLEY are not so far away
NEARLY A HUNDRED BUILT HOMES NEAR THE TROLLEY THIS LAST YEAR
THE STREET RAILWAY IS A VITAL FACTOR IN THE GROWTH AND PROSPERITY OF A COMMUNITY
WATCH YOUR WATCH When it's Car time at your corner It's our time to be there
WOW 32000 MORE RIDERS so far this year
THE TROLLEY FOR SAFETY OF A MILLION PASSENGERS "NO ONE HURT"
I'VE ALWAYS HAD 4 WHEEL BRAKES BUT WHY BRAG ABOUT IT?
HOW SHALL IT PROFIT A MAN IF HE SAVE SEVEN CENTS AND WEAR OUT HIS SOLE — -R-I-D-E-
SATURDAY HAS NO TERRORS WE GET A BATH EVERY NIGHT

Nine Catchy Posters Executed in Bright and Attractive Colors. They Have Been Useful in Bringing the Railway to the Attention of the Public

INTRODUCING Aunty J Walker
Aunty J Walker ALWAYS LOOKS FIRST
Aunty J Walker NEVER CROSSES LIKE THIS
TALL CEDAR FROLIC APR 21-22
WE LOVE OUR TEACHER NEXT WEEK
NOW JUMP! CONGRATULATIONS TO CLASS OF '25
Dependable
POLICE FUND GO GO BALL FEB 12
FEET ARE FUNNY RIDE WHEN ITS SOFT WALK WHEN ITS HARD WE NEED THE MONEY RAIN OR SHINE

Several Distinct Types of Publicity Matter Are Used—Safety Slogans, Advertisements of Fraternal Organization Activities, Railway Messages, Etc.

Prospective Passengers Need Not Stand While Waiting for Cars of the Cumberland Traction Company

is expected by the management that 1926 will show still more favorable results. Financial conditions are more satisfactory than ever before on account of the increased traffic, the relief from paving obligations and the decreased operating expenses with the new cars.

Total operating expenses have decreased from 28 cents per car-mile in 1922, the last year when the old cars were running, to about 21 cents in 1925. The year immediately following the inauguration of service with the new cars, the cost dropped to 22.86 cents per car-mile, and this was further reduced in the succeeding two years. Equipment costs have been reduced from 5.24 cents per car-mile to 3.20 cents; power from 4.95 cents to 4.60 cents; way and structures from 4.92 cents to 2.70 cents.

Various methods have been adopted to promote good public relations. More attractive cars operated on more regular headways have been of primary importance in this respect. For the convenience of prospective passengers who arrive at the car stop before the time of arrival of the car, the railway has provided benches. These carry the message that "it will soon be car time."

When the company built a new concrete carhouse to accommodate its passenger cars, the service cars were placed on a storage track outside the building. It so happened that the carhouse was located directly across a canal from a pleasure park. Users of the park thought that the presence of the work cars on the storage track was a discordant note in the sylvan surroundings. The company, therefore, built an arbor between the tracks and the canal and planted roses which now have grown up high enough to conceal entirely the outside tracks and the cars in storage.

Another instance of the methods used to improve public relations is the privilege which the company grants on hot summer nights of riding all evening for a single fare. Many people spend the evening riding this way to keep cool and those who avail themselves of the privilege remain friends of the company.

PASSENGERS CARRIED DURING LAST QUARTER OF 1925

	1924	1925	Increase
Local passengers—October	44,229	55,530	11,301
November	43,892	52,595	8,703
December	53,814	61,375	7,561
Average monthly increase			9,188
Interurban passengers—October	27,121	29,860	2,739
November	26,591	29,942	3,351
December	29,138	30,949	1,811
Average monthly increase			2,633
Average monthly increase all lines			11,821

An aggressive publicity policy has marked the management of the reorganized company. Every week Mr. McPherson has had a message to tell the public. This has been done by means of posters carried on the front dashers of the cars. The posters are home-made and look it, but this is thought to add to rather than detract from their effectiveness.

The process of making these posters is a simple one. The design is first drawn on a sheet of paper of the same size as the finished poster. Using a manual training knife with a blade about 3 in. long the designer then cuts out the pattern in stencil form. The stencil sheet is next set up on an easel in front of the paper to be used in the poster. Colors are spread on by means of an air brush attached to a tank under one of the cars. Colors are used for all of the posters. Ordinarily these are artist's water colors, but oil paints are sometimes thinned out and used for special purposes.

Subject matter of the posters varies widely, as will be seen from the accompanying illustrations. Many of the posters are intended to convey some message which the railway wishes to impress upon the public. On the other hand, many have no connection with the railway. Some are safety slogans, while others simply call attention to coming events, meetings, activities of fraternal organizations, etc. Comparatively few of the illustrations are original but are copied in whole or in part from ELECTRIC RAILWAY JOURNAL, *Aera*, and other publications.

An unusual feature of the publicity work was posting of the World's Series baseball scores by innings on the front of the cars during that week. Scoreboard posters were made up in advance and placed on cars. Returns were received by radio in the center of the city. The railway had a man with a paint brush ready and when a car passed he would post the score.

Artistic Dash Poster Welcoming Members of American Legion When Their Convention Was Held in Bridgeton

Scores of the World's Series Baseball Games Were Received by Radio and Posted Inning by Inning on the Front Dashers of the Cars

Casual Observations on the Operation of European Tramway Systems

Heavy Platform Loads Create Problem in Body Design — Present Practice Favors a Longer Wheelbase than Formerly Used — Many Cars Are Excessively Heavy—One-Man Operation Has Not Been Widely Accepted

By Spectator

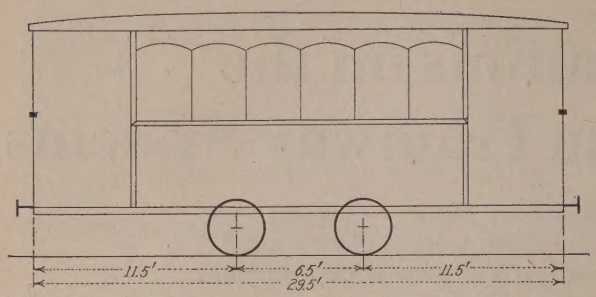
Double-Deck Tram Cars Are Widely Used in England as Indicated by This View of Westminster Bridge, London

WHEN one has commenced his career in the street railway industry and has made it his life work it is difficult to abandon all interest in this subject when one goes away for a vacation. On a recent journey in England and on the Continent I saw many tramway systems, both modern and out of date, with clean cars and dirty cars, and numerous surprising differences between the practices in some countries and in others. As I did not make a trip of technical investigation, such as the editor of ELECTRIC RAILWAY JOURNAL took in September, 1924, I shall confine myself to indicating several peculiarities that especially struck me.

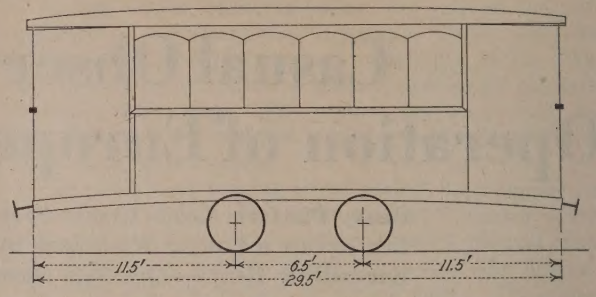
What most surprises a stranger in England is the widespread use of double-deck cars. One wonders why this type of car is not generally used on the Continent. With approximately the same dead weight and motive power this type of vehicle could transport 25 to 30 per cent more riders than a car without the upper deck, and the platform cost would remain about the same. I say "could transport" 25 to 30 per cent more because in England passengers are not allowed on the platforms, while all over the Continent it is the platform that carries the majority of the passengers. For that reason the English double-deck cars actually carry fewer riders than the single-deck cars on the Continent, although they could easily accommodate a greater number. On the Continent from 24 to 40 passengers are allowed on the platform, while inside the car in double the space there are only some 20 to 24 passengers. Thus it is the platform that earns the dividend.

These conditions regarding the distribution of passengers on the cars have a curious and interesting reaction on the construction of the car body. In England all the load is concentrated in 10 to 13 ft. in the middle of the car, while on the Continent the load is distributed from end to end.

Frequently it appears that little or no account of this distribution of weight has been taken. In many places where the platforms are heavily loaded, it may be noted that the bodies are bowed at the two ends. Perhaps that is one reason why the rigid single truck, so well thought of in America, has been able to find users in only a few countries on the Continent. The English car is supported on a rigid single truck with a base of support of about 10 ft., but on the Continent this support must be much longer. Preferably it should be extended under the platforms, as has actually been done on many cars, especially in Denmark and Germany. In France single trucks are used on a number of systems. A large number of cars, however, have a very pronounced teetering and nosing movement, to



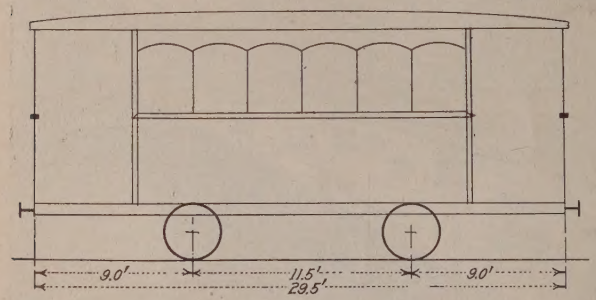
On the English Car, Accommodating 30 Passengers Inside and None on Platforms, the Weight Is Concentrated in the Center Section. Usually This Car Would Carry a Double Deck



The Continental Car, with Twenty Passengers Inside and Twenty to Twenty-five on the Platforms, Sags at the Ends Unless Very Solidly Built

say nothing of those that sag at both ends. Various types of truck are shown in the accompanying illustrations.

Everywhere in Europe the short wheel base is being abandoned little by little. Cars in England have a wheelbase of 8 to 10 ft. This is made possible by the use of an oscillating stirrup. From the arms of the stirrup resting on top of the journal box is suspended by means of two hinges a short piece which carries the two springs on which the body rests. The axles thus can move laterally while remaining parallel. The body plays freely in the yoke in a lateral direction only.

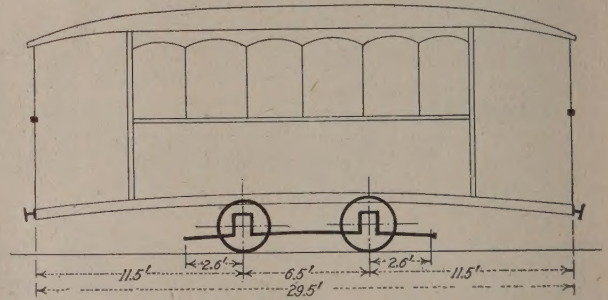


Type of Car with 11.5-Ft. Wheelbase Used in Europe

It appears that the freedom of lateral displacement of the axles facilitates the passing of curves to such an extent that wear and tear on the tires and the gage side of the rails is considerably reduced. So far as I know there are only one or two applications of this system on the Continent.

Long wheelbases are met with in Switzerland, but they usually are attained by the use of slightly radial axles. Although this is complicated and expensive with regard to maintenance, the heavy loads on the platforms make it imperative that the overhang be reduced to a minimum, and any system that permits the lengthening of the wheelbase is likely to be resorted to. Lateral displacement of the axles to permit the easy passage of short radius curves has been adopted by the management of the Paris tramways for its type L (light) cars. The wheelbase of these cars is about 12 ft.

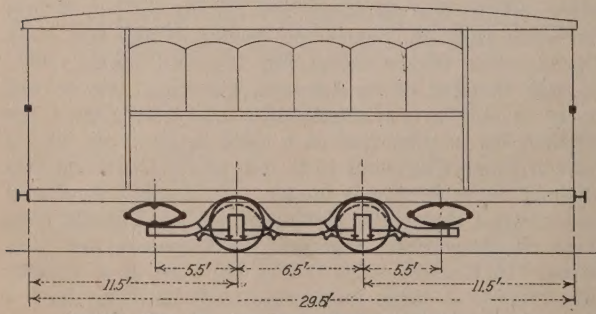
At Barcelona I saw striking examples of the discomfort of a car with large platforms and a short wheelbase. These cars, which seemed to me to be very heavy, are more than 9 m. in length and are mounted on rigid trucks of about 2 m. wheelbase. The platforms are overloaded all day long with from 20 to 30 passengers and the cars have a pronounced teetering movement. The weight on the overhang must be at least 11,000 lb. Destruction of the roadbed is rapid and the



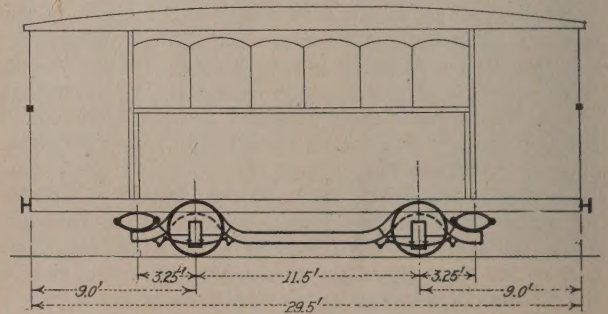
Same Car on a Truck with Short Base of Support

sum which has to be put aside annually for its upkeep must absorb a large portion of the receipts.

In several cities I saw applications of the radial truck with two axles, but only on a few cars. One would say that here and there a timid trial has been made which was not followed up. The attractive theory of such construction is well known, but in practice it sometimes is quite another thing. Experiments along this line have been made at Ostend in Belgium, at Liége and at Dortmund. A car 30 to 33 ft. in length, mounted on three axles, is used at Ghent. Technical information on the subject of this car unfortunately was not obtainable. Maintenance of three pairs of tires and the wear on the rails by three sets of wheels must surely be more expensive than the swinging system



In this Case the Car Body Rests on Springs at the End of the Truck Frame



A Still Longer Base of Support Is Obtained by Means of a Flexible Suspension and Lengthened Wheelbase

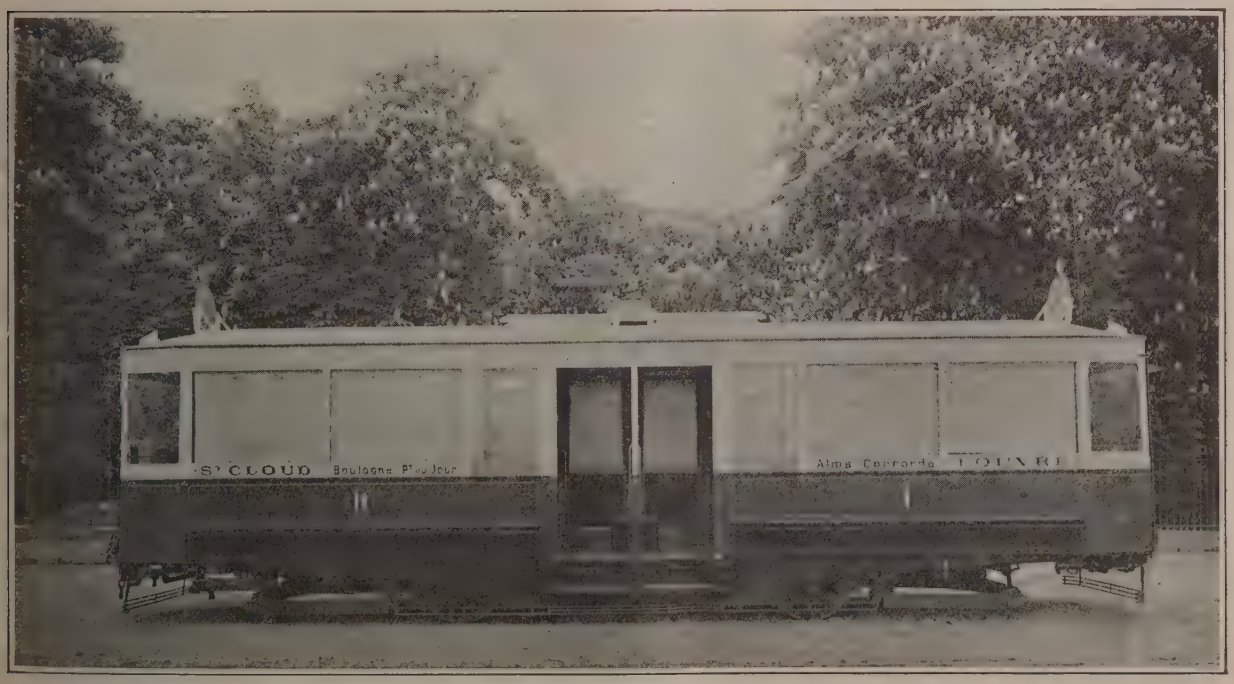
Double-Deck Double-Truck Car of the Metropolitan Electric Tramways Is Typical of Many English Cars

Another Type of Car Used in England. A Removable Top Protects the Upper Deck in Winter

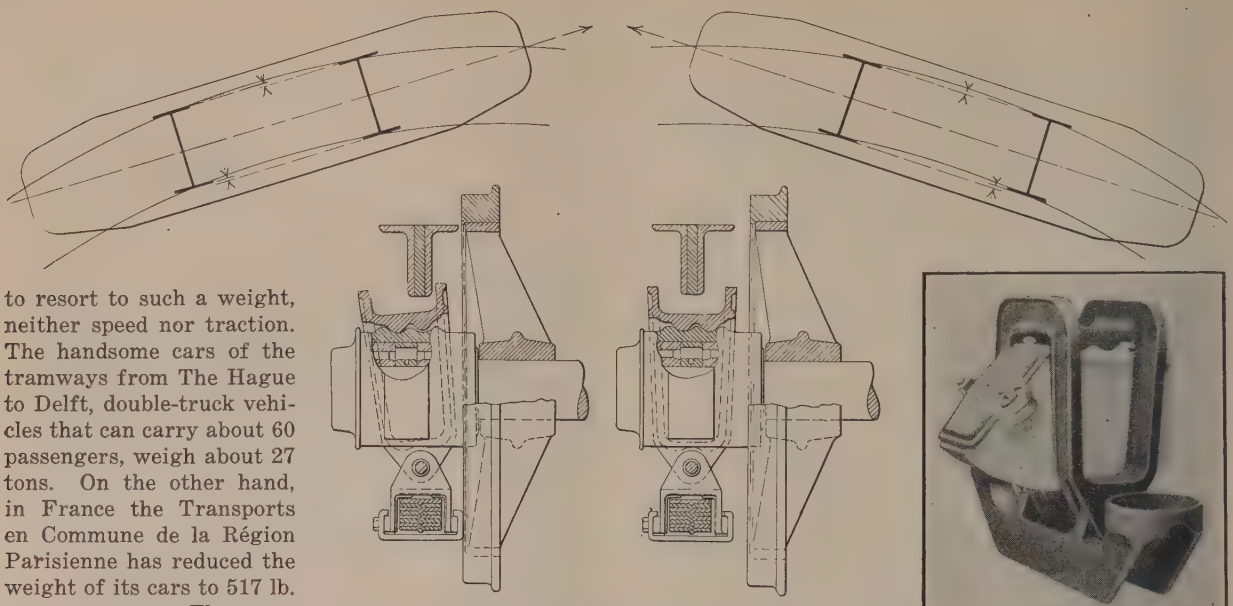
used in England. It would be interesting to know the reasons that influenced the management at Ghent to resort to a system of suspension from three axles.

Efforts toward the use of a long wheelbase have been carried much farther in Europe than in America, a fact which may be explained by the difference in loading on the cars.

Excessive weight of the cars is an odd feature on most of the European systems. Particularly is this true in Holland. Perhaps that is due to the character of the people, who prefer that which is solid and durable and who seek for good quality rather than cheapness. The equipment is excellent, perhaps too good, as the weight exceeds bounds of economy. The cars of Leyden, carrying 63 persons, weigh 35 tons or 1,100 lb. per passenger. Nothing makes it necessary



Light-Weight Car of the T.C.R.P., with Motors Mounted on the Body Framing and Axles Attached to the Body by Springs and Shackles. This Arrangement Gives About 15-In. Play for the Axles



Normal (at Right) and Distorted Positions of Journal Box When Car with Flexible Suspension Negotiates a Short Radius Curve

The Saddle Swings from the Top of the Journal Box to Permit Lateral Movement of the Axle

to resort to such a weight, neither speed nor traction. The handsome cars of the tramways from The Hague to Delft, double-truck vehicles that can carry about 60 passengers, weigh about 27 tons. On the other hand, in France the Transports en Commune de la Région Parisienne has reduced the weight of its cars to 517 lb. per passenger. The management of tramways at Berlin has gone farther still. There the weight has been reduced to about 365 lb. per passenger.

An American electric railway engineer inspecting the European systems often would be amazed at the absolute lack of effort at economy. This is true despite the difficult conditions under which operation must be carried on, conditions which indicate the real need for strict economy. Heavy cars and two-man operation are examples.

Tramways that own heavy equipment and have not sufficient funds for replacement are evidently excusable, but others which have ordered new equipment since the war certainly deserve blame for squandering money without the least reason. It has been stated as an excuse that a single-truck motor car carrying 50 passengers and weighing 13 tons will have a longer life than a car of 10 tons because the latter is less solidly built. This extra weight, however, costs 30 per cent more for power and 30 per cent more for wear. Is five years gain in the amortization of a car really worth the loss of all the economies realized during a period of perhaps twenty years?

Another thing to arouse the astonishment of the American railway engineer is the extravagant disbursements that the small systems allow themselves. For the past eight years it has been well understood in America that it is impossible to operate a system having light traffic in the same manner and with the same costs as a system having dense traffic.

Car Lines in Munich Converge at the Square in the Center of the City

In the larger cities, where the cars are almost always full, the conductor has scarcely any leisure, particularly when a system of transfers or zone fare collection requires him to distribute tickets at five or six different prices. But on the smaller systems, where the cars carry on the average not more than ten to fifteen passengers and where there is only a uniform rate of fare, the employment of a conductor is really a luxury and so is an unwarranted outlay.

Why should the small systems thus continue to lose money when the introduction of the safety car or one-man car would certainly be their salvation? For example, there exist in France some twoscore struggling systems in provincial towns that might be changed into successful operation. What can possibly be the reason for this lack of progressiveness? It may be attributed above all, I believe, to the habit of routine, the conservative spirit which in Europe holds back the development of so many businesses. The ability of the managements often leaves much to be desired. Also, the fact that tramway operations are often conducted by financiers, rather than by business men, may have something to do with the matter.

Tramway Traffic in Potsdam Square, Berlin

Fault cannot be found with the systems in all the countries of Europe. One country that follows closely the advances made in the last few years is Holland. The equipment is modern, although somewhat heavy, as has been remarked, and very well kept up. For cleanliness it has not an equal either in Europe or in America. One-man cars are operated on all the small systems and even on several lines in Amsterdam.

In Germany, also, the majority of the systems maintain a high degree of progressiveness, except, however, in the matter of one-man cars. These one sees only in three or four small towns.

Tramways in the south of Europe reflect the character of the population. In Italy and Spain the equipment is generally in a deplorable state. Economies resulting from progress realized during the last ten years are absolutely unknown.

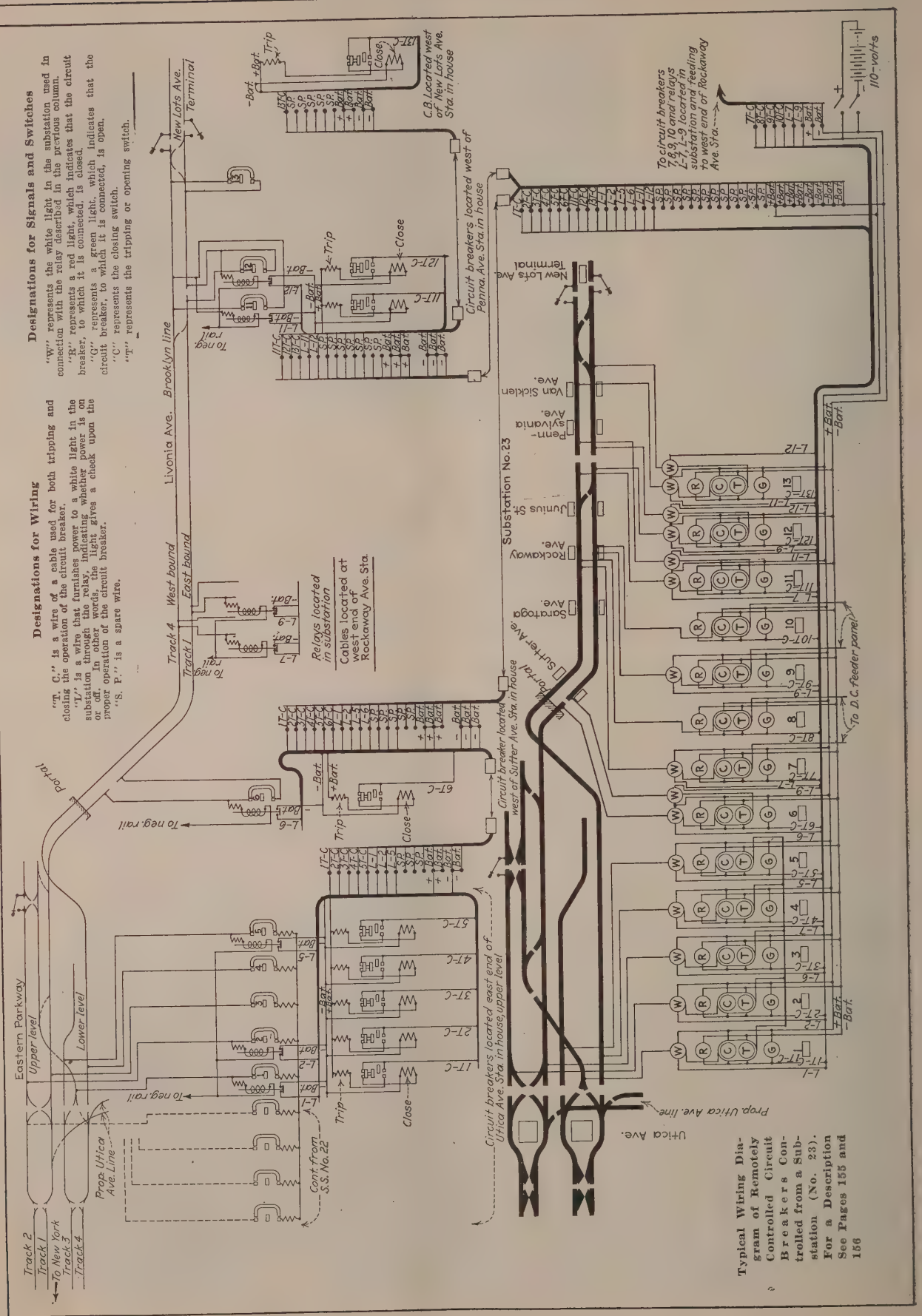
Greater Aggressiveness Is the Present Need

During the month of July an international convention of tramway men was held at Brussels. For the question of one-man car operation was reserved the honor of the first discussion on the program. The report on this subject pointed out the danger of the introduction of the one-man car not only to the public but also to the operators. Admitting that not all one-man cars may be considered safety cars, the report is perhaps not incorrect. In it no distinction is made, however, between a car which has not been equipped with a single safety device and a car equipped with all the apparatus necessary to place the operator as well as the passengers out of all risk of danger.

In any case, the fact that the one-man car was made the object of discussion at the convention promises that it may be more widely used. When one realizes how slowly and with what hesitation important measures have been adopted in the past, however, the employees of the tramways need not feel great anxiety.

For some enterprising Americans there is a great field of opportunity in the present European tramway situation. A financial group might well merge the small struggling systems for which European managements have not found the cure, and which in their incompetent hands go quietly but surely to death. The American financier, provided he be an electric railway man, could quickly instill life into the ailing systems by introducing technical improvements and numerous economies, such as the one-man car, which in a short time would put the business on its feet. A company whose stock is now quoted at 50 on the Bourse could attain in a year or two a quotation of 100 or more. In the tramway industry of Europe itself, however, the vigor and energy needed to accomplish such a change is lacking.

Many Provincial Tramways in France Have Antiquated Rolling Stock Similar to This Cherbourg Car

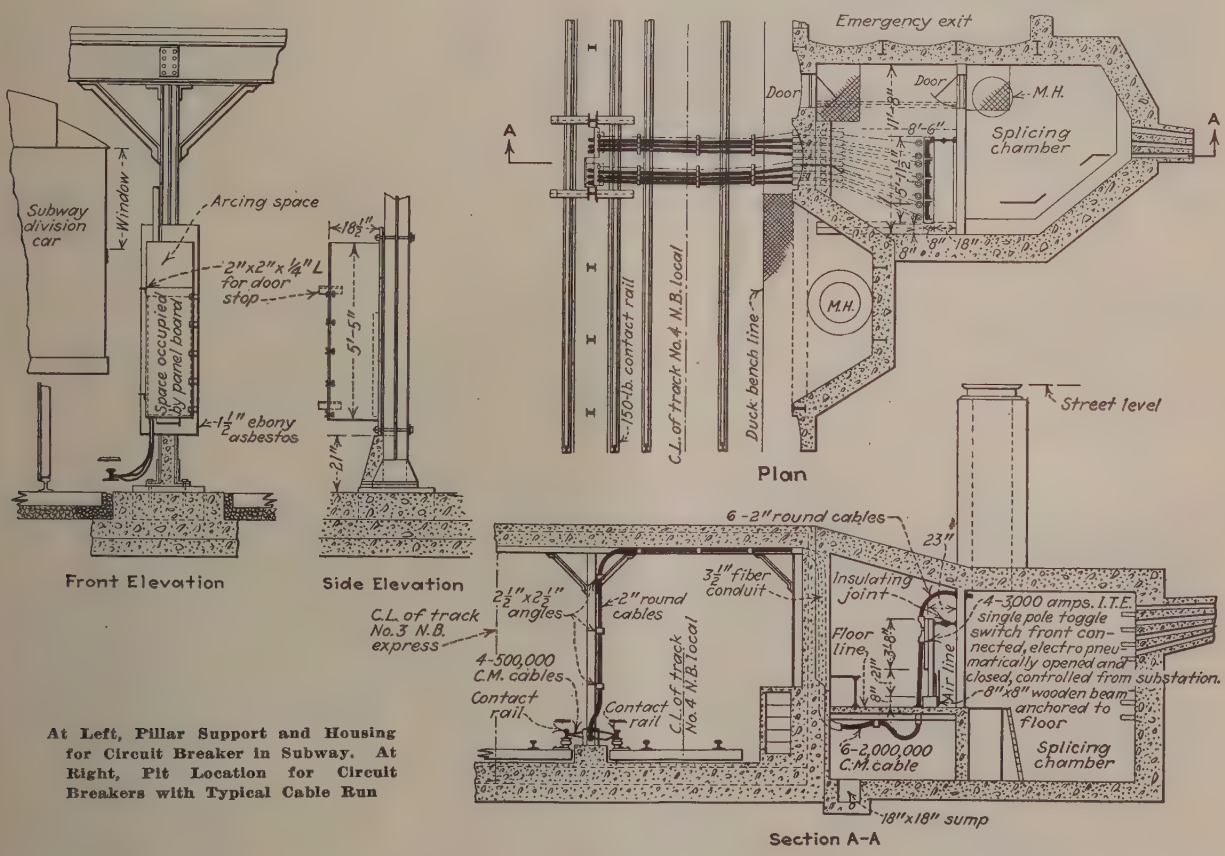

Designations for Wiring
"T. C." is a wire of a cable used for both tripping and closing the operation of the circuit breaker.
"T" is a wire that furnishes power to a white light in the substation through the relay, indicating whether power is on or off. In other words, the light gives a check upon the proper operation of the circuit breaker.
"S. P." is a spare wire.
Designations for Signals and Switches
"W" represents the white light in the substation used in connection with the relay described in the previous column.
"R" represents a red light, which indicates that the circuit breaker, to which it is connected, is closed.
"G" represents a green light, which indicates that the circuit breaker, to which it is connected, is open.
"C" represents the closing switch.
"T" represents the tripping or opening switch.
Substation No. 23
New Lots Ave. Terminal
Livonia Ave.
Brooklyn line
Track 4 West bound
Track 1 East bound
To neg. rail
Relays located in substation
Cables located at west end of Rockaway Ave. Sta.
Circuit breakers located west of Penna. Ave. Sta. in house
C.B. Located west of New Lots Ave. Sta. in house
To circuit breakers 7,8,9,10 and relays 1-7, 1-9 located in substation and feeding to west end of Rockaway Ave. Sta.
110-volts
Penn-sylvania Ave.
Van Sicklen Ave.
Junius St.
Rockaway Ave.
Saratoga Ave.
Sutter Ave.
Circuit breaker located west of Sutter Ave. Sta. in house
To D.C. feeder panel
Circuit breakers located east end of Utica Ave. Sta. in house upper level
Utica Ave.
Prop. Utica Ave. line
Cont. from S.S. No. 22
Prop. Utica Ave. Line
Eastern Parkway
Upper level
Lower level
Track 2
Track 1
To New York
Track 3
Track 4

Typical Wiring Diagram of Remotely Controlled Circuit Breakers Controlled from a Substation (No. 23). For a Description See Pages 155 and 156

Power Distribution in the Interborough

The Contact Rail Sections Are Interlocked and Connected by Electro-Pneumatic Circuit Breakers and All Are Under Control from a Centralized Station—In Consequence, the Circuit Breakers Controlling an Entire Substation Section Can Be Opened Through an Emergency Alarm Whose Boxes Are Distributed Along the Walls of the Subway

ARTICLES in this paper last year discussed the numerous safety features and other improvements applied to the rolling stock of the Interborough Rapid Transit Company and other phases of its New York subway rapid transit service. Equal care has been used in the installation of the electrical distribution system to protect against accidents and electrical disturbances, as well as to safeguard passengers against possible delay through interruption.



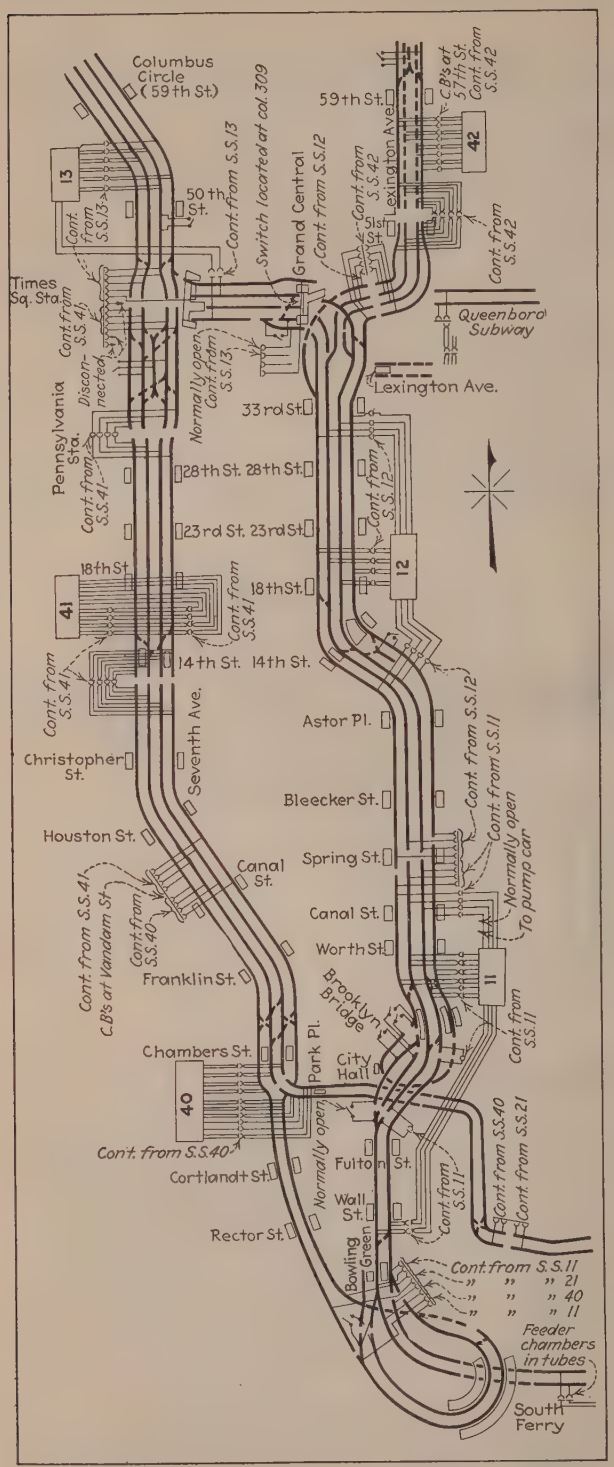
At Left, Pillar Support and Housing for Circuit Breaker in Subway. At Right, Pit Location for Circuit Breakers with Typical Cable Run

Primarily the safety features of the system depend upon the sectionalizing of the third rail, the sections being electrically connected by electro-pneumatic circuit breakers, which are under remote control from a centralized control station. In consequence, the circuit breaker controlling a section, besides automatically opening in case of a super-current flow, will open if an emergency alarm is sent from one of the alarm boxes mounted on the subway wall in that section. Reference to this emergency alarm system in connection with the sectionalized distribution system has been made in previous articles in this series, particularly in that in the issue of July 25. In this article an account will be given of the method by which the contact rails are sectionalized and connected up and supplied with energy from the substations, as well as how the emergency alarm works.

Cable Connection to Contact Rail

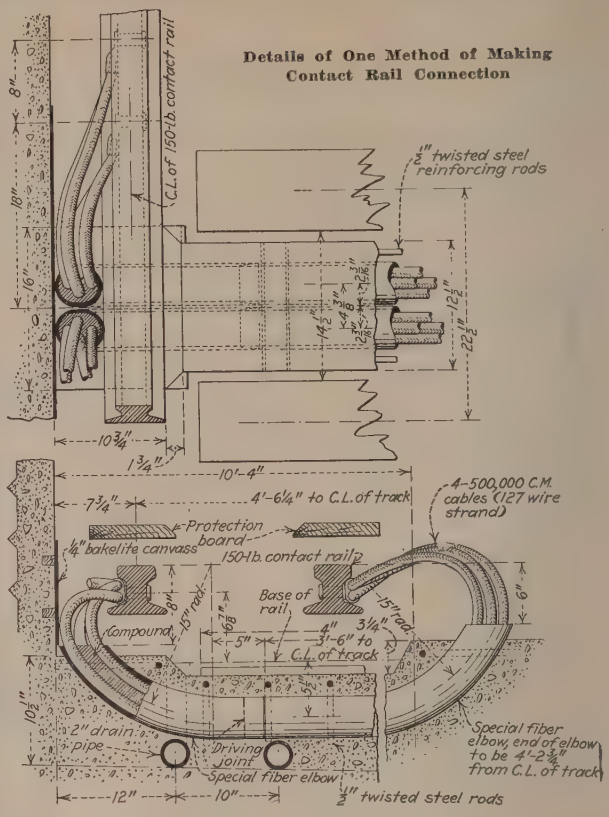
The contact rail in the tunnels is protected from the adjacent structures, and particularly from the steel columns, by means of a specially prepared board carried over the top of the rail and supported by properly insulated posts. The cables which furnish power from the substations to the contact rails are of the concentric type—that is to say, there is an inner core that is positive, then a layer of insulation, then a layer of wires forming the negative conductor, then more insulation, and then an outer covering of lead. The purpose of this type of cable construction is to localize any trouble caused by short circuits.

At its outer end this cable terminates at a manhole in the side wall of the tunnel where the positive and negative portions of the cable are separated, the negative lead being connected to a bus and the positive



Portion of Positive D.C. Feeder Layout Showing Location of Substations, etc.

lead carried to a circuit breaker. The circuit breaker is of 3,000-amp. capacity and is equipped with an electro-pneumatic valve for the closing operation and a trip coil for the tripping operation. The circuit breaker is mounted on an extra heavy panel. In some cases, these circuit breakers are housed in fireproof boxes and mounted on the columns, as shown in the left hand drawing on page 153, but wherever possible, a separate concrete and steel chamber is constructed as



part of the subway structure, as shown in the right hand drawing on page 153.

The negative bus is mounted in a separate chamber immediately adjacent to the circuit breakers. The negative cables are then run from this negative bus to the track rails in fiber conduit, with a sufficient thickness of concrete around the conduit to prevent water from entering it and to protect it from damage that might be caused by its coming in contact with any heavy object, as well as to afford protection against fire.

The positive connection from the circuit breaker to the contact rail is made by means of 2,000,000-circ.mil cable, insulated by an extra heavy thickness of Kerite insulation, and where it is necessary to install this cable on the steel beams it is further insulated by porcelain insulators. This 2,000,000-circ.mil cable is terminated in a specially devised pothead, constructed of concrete where it is changed to four smaller cables more easily to permit of its being bonded into the contact rails to its full capacity. This change in the size of cables is made by a mechanical connector that permits of ready disconnection whenever necessary.

At all locations where it is possible the positive cables are run underneath the track bed in the way already described for the negative cables, except that as a further insurance against the collection of moisture in the conduits under the track the conduit is filled solidly with a cable compound. Some idea of this detail may be gained from a study of the drawing above, which shows one of the several methods of making the connection, the one used depending upon conditions.

Control of Energy Supply

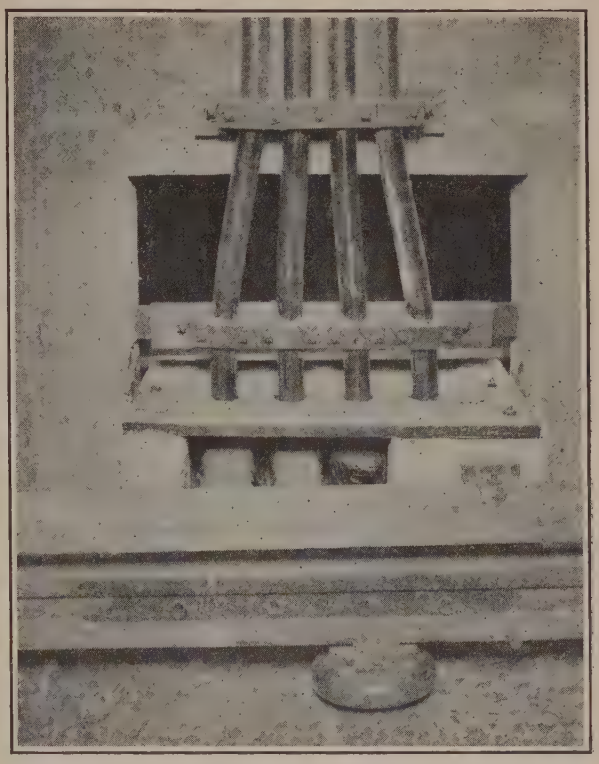
Power is furnished to the contact rails from substations located approximately 2 miles apart. The contact rails within the section supplied by power from

a substation is in full control of the operator of that particular substation, and he is under the direction of a system operator located in the main power station. This arrangement has been made possible by the control system in use by which each track section receives power through separate feeders and circuit breakers, and it permits the localizing of any trouble to the track section on which the trouble occurs. The contact rails are further sectionalized for reasons of operating facility during times of emergency, particularly at places where crossovers are located and where it may be necessary to turn or divert trains from one track to another around sections where trouble exists. This is accomplished by creating a gap in the contact rail, around which gap cables are inserted for continuity of power, the cables being in series with a circuit breaker.

In the design of this system, one of the fundamentals observed was the elimination wherever posible of any material of an inflammable or combustible character that would tend to create smoke or fumes. Where this was not possible extraordinary preventive measures were followed for the protection of materials of a combustible or inflammable character.

Circuit Breakers and Wiring

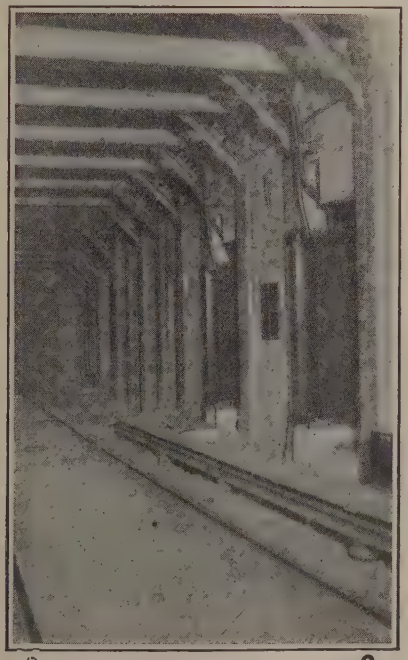
The contact-rail sections fed from each substation are terminated at points midway between adjacent substations by gaps in the contact rail, around which are cables connected to a group of circuit breakers in sufficient number to provide separate and distinct circuit breakers for each track and for each substation. That is to say, at the dividing point between substations each substation has its own set of circuit breakers. These circuit breakers are all bus-connected so that the load in all rails will be equalized. Therefore, each contact rail section generally consists of a section of tunnel in sole control of a substation operator and furnished with power from this substation, with each track and section independently operated and controlled by dovetailing into the adjacent substation feeding section, as shown in the diagram on page 154.



Cable Connections at 52d Street Lower Level, Lexington Avenue Line

Each section of contact rail between the gaps is designated by a series of letters and numbers for the purpose of ready identification. So far as is possible, the designating letters employed are related to the location of the limits of the section.

Circuit Breakers in Boxes on Columns, with Boxes Open at 136th Street and Alexander Avenue



Circuit Breakers in Boxes on Columns with Boxes Closed at 129th Street and Lexington Avenue

Front View of Group of Circuit Breakers in Chamber at 79th Street and Lexington Avenue

The wiring system for the control of the circuit breakers is shown in the large drawing on page 152. Its operation is as follows: In times of emergency, the emergency alarm boxes located throughout the tunnels are operated by any employee at or near the trouble. Operation of this emergency alarm causes the main feeder breakers in the substation to open and simultaneously to open the equalizing circuit breakers at each end of the substation feeding section. The result of this operation is that the supply of power is then discontinued within the limits of the line fed by the substation. Properly authorized officials in the field are then placed in communication with the system operator, when the proper procedure is decided upon for the resumption of operation. On receipt of these instructions the system operator issues the necessary orders to the substation affected.

This system of control wiring involves the use of control cable throughout the entire length of the subway. This cable is carried on the walls of the tunnel, so that in event of electrical disturbance in cables in the duct line it will be as far removed from trouble of this sort as possible. It is of a rubber-covered type, with specially designed outer covering and support, and of necessity is made up of many conductors, the number of conductors depending upon the number of circuit breakers to be controlled by a particular substation.

The description of the contact rail system just given applies only to the tunnel portions of the Interborough Rapid Transit Company. While the general features of the contact-rail system on the elevated structure of the company are somewhat similar they differ in a number of particulars, especially on the outlying sections of the elevated structure.

Piedmont & Northern Builds Articulated Locomotive

Cab Is Mounted on Four Trucks, Each Pair Being Swiveled Under a Center Beam with the Two Beams Linked Together at Their Inner Ends

CONSTRUCTION of an articulated electric locomotive not long ago added an important element to the equipment of the Piedmont & Northern Railway, Charlotte, N. C. This locomotive, which was designed and built in the shops of the company at Greenville, S. C., has a tractive effort of about 39,000 lb. and will haul trains of 1,400 tons at 20 m.p.h. In a number of respects it is similar to the locomotive of the Illinois Traction System which was described in ELECTRIC RAILWAY JOURNAL for Jan. 31, 1925, page 187.

Over-all length of the Piedmont & Northern locomotive is 64 ft., while the height is 15 ft. 5 in. and the width is 9 ft. 10 in. The weight is 95 tons.

Running gear consists of four trucks built by the Baldwin Locomotive Works. Each truck has a 7-ft. wheelbase. Each pair of trucks is swiveled under a rigid box-girder center beam, the two beams being linked together at their inner ends. The outer ends are built up with the necessary side and cross members to carry the platforms, bumper beams, draft gear, etc. The total wheelbase of the locomotive is 54 ft. 8 in.

Each axle carries a motor, thus giving eight pairs of driving wheels. Current is drawn from a 1,500-volt trolley. Motors are of 145 hp. each, built by the Westinghouse Electric & Manufacturing Company, and are of the interpole type with field control to give four running points. Control apparatus consists of two 65-C-13 line switches, two 65-B-27 switch groups and two 84-C reversers, together with other auxiliaries necessary for electro-pneumatic control. Air is furnished by two YE-6 dynamotor air compressors, furnishing 100 cu.ft. of air per minute. The motors are ventilated and cooled by forced draft ventilation.

A steel cab 46 ft. 9 in. long is carried on two main bearings pinned to the center beams. On each side of the center two 8-in. channels act as floor stringers, running the full length of the cab. They are fastened by a plate riveted across their bottoms. These form the side walls of air ducts in the system of forced ventilation for the motors. Except for these plates none of the longitudinal members of the cab is bored for passage of pipes, conduit or other equipment.

The grid chamber located in the middle of the cab runs from the floor up through the roof. It is open below and covered at the top by the monitor roof, thus affording good ventilation. This chamber is particularly roomy and grid frames are so arranged that any one can be removed easily. All equipment in the cab is so located as to be readily accessible for inspection and repair. Units can easily be removed without disturbance to the others. Wiring is in conduit and is so arranged that each circuit is as short as possible. The locomotive can be operated from either end.

Articulated Locomotive with a 54-Ft. 8-In. Wheelbase and Eight Sets of Driving Wheels

8-Cent Fare Granted to P. R. T. by Pennsylvania Commission

By John A. Dewhurst
Associate Editor ELECTRIC RAILWAY JOURNAL

Report of the Commission Is Briefed and an Outline of Interesting Events Leading Up to This Last Decision Is Presented—History of Case Just Concluded Extended Over Nearly Two Years and Was Fraught with Interference by the Governor That Strikes at the Very Heart of Good Public Utility Regulation

BY ORDER of the Public Service Commission of Pennsylvania the Philadelphia Rapid Transit is permitted to charge an 8-cent cash fare with a 7½-cent token, two being sold for 15 cents. The order of the commission, dated Jan. 12, makes permanent the temporary grant made on Sept. 8, 1924, that increased the fare from 7 cents cash and 6½-cent tickets (four for 25 cents).

There has been perhaps no more interesting series of cases in the annals of public utility regulation than those recently held in Philadelphia. The last case, started July 21, 1924, has been a climax to a series of proceedings which has kept the company before the Public Service Commission and the courts of the commonwealth without important interruption since June, 1920.

During this last case Gov. Gifford Pinchot caused considerable trouble by dismissing Commissioners Benn and Shelby. The Governor assigned no reason for his action, but it was inferred that he was displeased with the progress of the P. R. T. case and the attitude that the commission was assuming. The Superior Court of the state finally overruled the Governor and allowed the commissioners to resume their seats on the commission.

The report and order of the commission under date of Jan. 12 was approved by four of the seven commissioners, a bare majority. Richard W. Martin dissented, and in a memorandum states that he will file a minority report as soon as he can prepare it, and Commissioners Scattergood and Evans refrained from voting on the report for the reason that the Bureau of Cost and Statistics will not be able to complete its analysis of certain specific testimony for several weeks.

Following the decision granting the fare increase based on the commission's report, abstracted below, Governor Pinchot again indicated his displeasure by withdrawing from the Legislature the reappointment of Commissioner John L. Stewart of Bethlehem, Pa., apparently because Mr. Stewart was one of the four commissioners voting in favor of the commission's order.

Since the announcement of the commission's decision, many claims and counter-claims, some quite bitter in their content, continue to fly back and forth.

Prior to June 1, 1920, the company charged a 5-cent cash fare and at many important transfer points, largely in the downtown district, charged an additional 3 cents for an exchange transfer, although it had many more in number of so-called free transfer points. The company's first proposal and also its second proposal, submitted in October of the same year, called for a basic 5-cent fare and the elimination of practically all of the 3-cent exchange tickets and a charge at certain other transfer points. Both were condemned by the commission.

About the same time there was a serious break in the board of directors of the company over the type of fare structure, whether it should be an increase along the lines of retaining the 5-cent basic fare desired by T. E. Mitten, then president of the P. R. T., or a horizontal increase keeping the fare structure essentially the same. The break in the board of directors finally resulted in the resignation of E. T. Stotesbury of Drexel & Company, and several other banking members of the directorate, who were in sympathy with Mr. Stotesbury's views. Prior to the disagreement of the board of directors, the question of the type of fare increase was submitted to three nationally known engineering concerns. The majority opinion of these engineers was in favor of the horizontal increase and they recommended the fare that was finally ordered by the Public Service Commission on Oct. 18, 1920, of 7 cents and four tickets for 25 cents. The commission directed that this fare be charged for a period of six months; and at the end of the six-month period the company on its own motion continued in effect the fare prescribed by the commission.

The city of Philadelphia and certain local associations protested any increase and asked that a valuation of the company's properties be determined and be used as an aid in fixing the reasonable rates. On Sept. 23, 1920, the commission began to hold hearings and receive evidence bearing upon the fair value of the company's propery, which proceeding soon became known as the valuation case.

The commission states in its report that the record produced in this case was the most extensive ever made in any of its proceedings, and contained evidence upon nearly every subject pertinent to the pending issue. The hearings were not concluded until May 15, 1923, and on June 21 of the same year the commission handed down its findings of the then present fair value of the company's property of "substantially upward of $200,000,000." The fair return allowed by the commission was 7 per cent, equaling $14,000,000 annually.

The city of Philadelphia and other individuals, not including the company, immediately appealed the case to the Superior Court of the Commonwealth. This court affirmed the findings of the commission and established two important things: First, that the fares then in effect were lower than those on he average elsewhere and, second, that the fares were not yielding the

minimum fair return which the company might demand under its constitutional rights.

During the intervening years it appears that Mr. Mitten has temporarily abandoned the 5-cent fare theory, although he has often since then publicly stated that he believes this fare would produce the best results to the company and the public served. On July 21, 1924, the company filed its application in the present case, asking permission to increase its cash fare from 7 to 8 cents and its token fare from 6¾ to 7½ cents. Again the city of Philadelphia and others protested, and hearings before the commission were started on Sept. 2, 1924.

Assuming the burden which rested upon it, P. R. T. went forward with evidence in support of its application, which the commission has stated established, *prima facie*, three things: First, that the 6¼-7-cent fares had not earned the allowable gross revenue or net revenue, indicated in the valuation decision; second, that commencing in the spring of 1924 and continuing through the summer, the extent of riding had decreased and was decreasing; third, that some increase in expenses had to be met apart from the increased labor costs, which it was claimed in 1925 would be $1,700,000 higher than in 1923. After hearing and cross-examination, the city moved for adjournment on Sept. 6, in order to prepare its case. Two days later the adjournment asked for was allowed, and at the same time the commission granted the P. R. T. permission temporarily to collect the fares asked for. The commission realized that the case would be drawn out over many months and desired to provide an actual test of the proposed fares in place of estimates.

Once again the city and other protestants appealed from this decision. On Sept. 19, 1924, the Superior Court denied the request that the appeal act as a *supersedeas*, filing an opinion wherein it held in part: "The hearing before the commission made out a *prima facie* case justifying the proposed increase in fare. This, *prima facie*, may be rebutted or overcome by evidence produced by appellants when they have completed their investigation; but, when the hearing adjourned, the burden resting upon the company had been met."

So much for the appeal as a *supersedeas*. Upon the appeal itself the Superior Court at the hearings and final arguments handed down its opinion on Dec. 5, 1924, affirming the report and order of the commission. It is worthy of note that the commission's action was thus affirmed despite the court's holding that the wage dividend as then paid by P. R. T., amounting to $1,900,000 yearly, was not a proper charge against operating expenses.

The proceedings during this case and in the months that followed, were fraught with much bitter feeling and caustic comment by many individuals and groups. The commission, unswerving in its performance of duty, commenced subsequent hearings in April, 1925, and concluded them in September of the same year. It had before it at the close of the hearing a full twelve-month record of gross earnings under the new fare, so that the briefs and arguments developed no important disputes on this item. While the commission supported the company's view as to the question of increases, it frequently had to rule upon arguments presented by the company, one of which is of general interest and is cited in the commission's report.

In its brief the company advanced the following conclusion and contention: "The simple fact is that the Philadelphia rider pays the average price for a service vastly superior to the average. It conclusively refutes any claim that the fares charged are more than the service is reasonably worth."

The commission states that it cannot accept this argument. In the words of the report:

> While the record does demonstrate that the company's service is notably a good service as compared with other cities, and while it also appears that the present fares are not higher than the approximate average prevailing elsewhere, these facts alone cannot establish the conclusion upon which the company insists. . . . It is also true that proper comparisons furnish some tests of the value of the service, but no final conclusion on that subject is possible without considering the cost of the service to the company. Throughout all business life cost has a direct and important bearing on value, and to determine value without an investigation of cost is well-nigh impossible.
>
> We should not be understood as holding that cost is the sole or absolute measure of a reasonable rate, for our courts have decided that: "Rate making contemplates fair dealing between the company and the public. . . . The mere assurance that the investment will not be confiscated will not suffice."

The commission's report altogether is contained in a 34-page typewritten statement. It goes on to analyze in detail the revenue and the operating expenses, paying particular attention to such points as were attacked in the arguments of the protesting parties to the case.

During these long discussions, lasting through many months, the company argued with great earnestness that the system of public utility regulation in Pennsylvania does not take from the managers of utilities the rights, duties and discretion of management; that the regulating body is not vested with the powers of management, and cannot substitute its discretion for that of the managers, and that the commission's only function in passing on the reasonableness of operating expenses is to correct any gross abuses of managerial discretion, if such appear. To this argument the commission replies in its report:

> This proposition is too broadly stated. Conceding that the commission may not itself assume the discretion of management, it is nevertheless clear that it is the commission's duty to see that discretion is reasonably exercised and to check and correct any unreasonable exercise of it.

Wages presented an interesting argument in these hearings, since at the beginning of the hearing the company paid a maximum of 70 cents per hour and a 10 per cent wage dividend, making in effect the total wage to trainmen 77 cents per hour, which the company admitted to be the highest wage paid to street railway trainmen throughout the country in 1925.

It may be explained here that the so-called wage dividend was established by P. R. T. several years ago and applied to all employees. This dividend was to be paid only if earned and after the common stock dividend. By the consent of the employees' association this dividend was paid into a pool, from which the common stock of the company was purchased in the open market.

Following the acceptance of this wage as not unreasonable or excessive, the report passes to the legal question, and the following extract from the commission's report is of interest:

> Prior to 1925 the company's wage arrangement included a contingent payment limited to 10 per cent of the base wage and designated a wage dividend. The bargain with the men provided that they should receive a certain base wage on each pay day and at the end of the year an additional payment up to 10 per cent, but payable only after payment of the current dividend to stockholders. All pay-

ments of this wage dividend were made to trustees for the men, who invested the money in the stock of the company almost exclusively.

The company in the past treated this wage dividend precisely like all other wage payments; that is, as an operating expense. The lawfulness of this course was first questioned upon the appeal from our temporary order in the present case. In brief and argument upon that appeal, the city urged that the contingent feature of this payment placed it subordinate to dividends upon the company's stock and therefore made it in law a payment out of profits, and not an operating expense. The Superior Court sustained this contention. . . .

This commission does not interpret the foregoing as containing any expression of opinion by the court as to the amount of a proper wage. It is clear that the wage dividend was removed by the court from operating expenses solely because of its contingent feature.

Subsequent to this decision, the company in April, 1925, abolished the wage dividend and raised the base wage to 77 cents, which it undertook unqualifiedly to pay to its men.

Unquestionably this action removed the contingent feature above discussed from any portion of the 77-cent wage and no argument to the contrary has been advanced. Concededly this action was taken in view of the Superior Court's decision and in our view it fully met the requirements of that decision.

The fact that a part of the resulting total wage is, by the men's direction, paid to trustees designated by them and invested in the stock of the company does not render such payment any the less a wage. Such arrangements are not uncommon in our industrial life. In the present case the records show that the men have unanimously authorized the arrangement and further that upon retirement from the service or upon death every man or his personal representative as the case might be received from the trustees the proportionate share of the funds in their hands. In the meantime they and they alone receive the income.

. . .

After a long and detailed discussion on the question of maintenance, the commission states:

Upon a careful consideration of all the evidence bearing upon this question, the commission concludes that the company's maintenance and renewal appropriation does not appear unreasonable and it would not be justified in disallowing any part of it as proper operating expenses.

In the same way the commission supports the company's contention as to the operating expenses under Power and Conducting Transportation. Referring to the general and miscellaneous accounts, the company urged that these expenses had been high because they included several large items for litigation expenses that may not recur. The commission contends that while they may not, it cannot say that they will not, for the company, like any other citizen, has an inalienable right to defend or assert its rights in all appropriate courts and tribunals.

The commission again stated that it cannot undertake to become the manager of this or any other utility and substitute its discretion for that of the manager, and concludes that for the reason given it is not warranted in disallowing any part of the company's 1925 general and miscellaneous appropriation of $4,750,880 as proper operating expenses.

In examining the tax items under consideration, the commission held that each item would be allowable or disallowable judged on the basis that the company owned outright the entire system and held that leases (several of which the P. R. T. holds) that only passed on a tax, but did not create a new tax, should be allowed in the company's budget, just as if the company owned the physical property outright. The company cited many decisions of state and federal courts substantiating their opinions on this subject.

The report states that the applicant owns all the stock of the Philadelphia Rural Transit Company, operating the bus lines in the city of Philadelphia and adjoining counties, as well as of the Pennsylvania Rapid Transit Company, which operates a line of trackless trolleys in South Philadelphia. While no investigation was made as to the operating expenses and revenue of these companies, nor were their respective properties included in the valuation, the report states that "it appears, however, that during 1925 the Philadelphia Rural Transit Company incurred a deficit of about $200,000." The commission states that it is of the opinion that it is not called upon to determine at this time whether the operation of motor buses should be considered as merged in and consolidated with the street car operation in a rate proceeding.

The results of the determination of the commission with respect to revenues and expenses are summarized as follows:

OPERATING REVENUES		
Estimated passenger revenue	$49,018,357	
Other operating revenue	707,000	
Total		$49,725,357
OPERATING EXPENSES		
Maintenance and renewals	$8,560,400	
Power operation	3,885,000	
Conducting transportation	15,942,000	
General and miscellaneous	4,750,880	
Taxes	2,951,491	
Frankford Elevated rental	468,120	
Total deductions from operating revenue		$36,557,891
Operating income		$13,167,466
Non-operating income		235,000
Available for fair return		$13,102,466

This amount of $13,402,466 is below the return contemplated as fair in the valuation case, even when the deduction of $444,000 on account of federal income tax is included in the equation. When it is considered that the Frankford rental alone increased during 1926 in the sum of $156,000 and that increases will also occur in substantial amounts, in gross receipts and taxes and other items in the operating budget, the margin will be accordingly increased.

German Street Car Accidents Analyzed

CAUSES of accidents and the means of their reduction are dealt with at some length by Herr A. Wolf in a recent issue of *Verkehrstechnik*. Taking as a basis the traffic accidents in Germany from 1899 to 1919, the figures relating to street railways show that 43.77 per cent of the accidents were sustained by passengers and 56.23 per cent by pedestrians. Of the total only 8.38 per cent were due to street railway operation. The majority of passenger accidents were caused by boarding or alighting while the cars are running, sudden application of the brakes, and collisions. Folding steps and gates on the rear platforms would, he believes, reduce accidents due to the first cause.

Although less than 10 per cent of the accidents are due to rolling stock and the work of the operating staff, the writer considers that steps should be taken to secure a reduction. More attention should be given to improvement of brakes. Stops should be selected with great care and when they are located in the middle of the roadway safety zones should be provided. The author believes that running the street cars along a route off the public highway would not only reduce the number of accidents but enable a higher speed to be safely maintained. In conclusion, greater attention to trolley lines and more careful selection and training of the railway staff are recommended.

The Readers' Forum

Committee on Management and Operation Planning Big Program

NEW YORK CITY, Jan. 16, 1926.

To the Editor:

It has been at times apparent that there has been some confusion about the purpose and work of the committee on management and operation. This is perhaps natural, partly because of the comparatively short time this committee has been in existence and partly due to the broad scope of its activities.

In attempting to clear away any misunderstanding that may exist, it might be advisable to set forth briefly the history that led to its organization. This work was first conceived by Britton I. Budd when he was president of the American Electric Railway Association. Originally there were two committees, known as the committee on city operation and the committee on interurban operation. Their function was to make an actual survey of conditions in the industry and preach the gospel of modernization. Although these two committees have been combined into one and the name changed to the committee on management and operation, Mr. Budd's original thought of modernization has been consistently carried on through two years.

The committees by visits to properties in every section of the country have discussed with electric railway operators the solution (through the adoption of modern methods and practices) of the most important problems with which the industry has been faced in recent years. These discussions have covered such matters as the automobile and the motor bus; public relations; employee relationships; popularizing service; operating economies; accident prevention; traffic congestion; development of freight business, and the reduction or elimination of unfair tax burdens. At the outset one of the important functions of the committee was the exchange of ideas and the dissemination of information regarding modern methods, made possible by visits of key men or field men of these committees to the various properties.

As a result of its survey the committee is now publishing a handbook in which will be found brief descriptions of modern methods of management and operation of electric railways in use here and there in the industry, but which may be applied on almost any property in the country and should eventually become standard practice when this influence is felt.

The regional directors outlined at their meeting held during last November the procedure for this year's activities. This program will be reviewed and plans made for field work at the meeting in Indianapolis.

In following the procedure outlined by the regional directors who constitute the advisory committee, it will be the duty of the members not only to disseminate the information collected in past years through the use of the Handbook on Modern Methods but also to collect additional information of a similar nature. Acting for Lucius S. Storrs and President Coates, members will seek suggestions as to the outstanding things that should be done by the association for the improvement of conditions in the industry. When deemed advisable the managers of properties visited may arrange for interviews between members of the committee and representatives of the public press. Executives will be urged to make greater use of their state committees for the dissemination of public utility information. Members will attempt while visiting executive and department heads to acquaint them more intimately with the activities of the association headquarters.

At the request of the executive committee this year the committee on management and operation is planning to co-operate with the committee on education by carrying to the properties visited its message pertaining to industrial education. This message is designed to set forth the value of employee educational work, as distinguished from employee training, and to outline the preliminary and practical steps necessary to start educational work on an electric railway property.

The committee on management and operation has been enlarged this year to 63 members, with a view to having a sufficiently large personnel to enable its representatives to visit again each of the 137 companies reached last year and in addition as many more as possible, either members or non-members, of the association.

R. F. CARBUTT,
Chairman Committee on Management and Operation.

Ministry of Transport Authorizes 1½d. per Passenger-Mile

NOTTINGHAM CORPORATION TRAMWAYS
NOTTINGHAM, ENGLAND, Jan. 11, 1926.

To the Editor:

In the abstract of my recent paper on fares, published in your issue of Dec. 26, there is a typographical error on page 1118 in the reference to the fare authorized in the model clause for tramway undertakings of the Ministry of Transport. The figure should have been 1½d. and not ½d. per passenger-mile. As corrected the sentence will read:

> In certain special acts promoted recently in relation to tramway undertakings, a Ministry of Transport model clause has been inserted, authorizing charges at the rate of 1½d. per passenger per mile.

A. A. JACKSON,
Technical Assistant.

Footing the Bill for Car Improvements

Jan. 20, 1926.

To the Editor:

I note in the Jan. 16 issue of the JOURNAL that a new committee has been appointed to study comfort and appearance of cars. It strikes me that the committee will not get much further than the noise committee did last year. That committee submitted a lengthy report at the last convention, but no one at the meeting took enough interest in it to discuss it either pro or con. So it looks to me like "love's labor lost." It is all very well for a lot of engineers to theorize and say that we should do thus and so to bring our cars up to a certain standard. But how are we going to get the money to do it? When we have to run everything to the limit and then some, to keep our expenses down, how can we afford to add the frills? Down our way we have run out of our supply of Aladdin's lamps, and unless the committee can scare up some new ones it cannot sell its wares.

Personally, I feel that our cars should be kept more quiet and should be improved as to comfort and convenience, but until our road earns more money and is in a position to spend some of it on equipment it looks like a hopeless task.

MASTER MECHANIC.

Association News & Discussions

International Tramway Convention in Barcelona

Program Just Issued for Convention of International Association to Be Held in Spain in October

BARCELONA, SPAIN, has been selected for the twentieth international convention of the Union Internationale de Tramways, de Chemins de fer d'Intérêt local et de Transports Publics Automobiles, with headquarters in Brussels, to be held this year. An invitation was received to go to Barcelona from the Mayor of that city. The convention will be held there during the first half of October. The program for the technical sessions of the association follows:

1. *City Planning:* A study of the three conclusions reached by Mr. Delavenne in his paper at the Paris convention of 1924 on the place of the public carrier in city planning. (a) Local city transportation systems assist in distributing the population of a city, in encouraging the movement out from the center, and in increasing to some extent the ability of the city to gain inhabitants. (b) Transportation lines are also most helpful in building up undeveloped territory, but their routes in such districts should be laid out under the direction of an impartial and disinterested commission. (c) Transportation lines should seek to supply a service providing a maximum of speed, consistent with the physical and other limitations present, and capacity at all times, so far as it can be done with economy in operation and first cost.

The speakers on subject No. 1 are Mr. Jayot, inspector-general of local transportation in the Prefecture of the Seine, Paris, and Mr. Delacroix, engineer of the Barcelona Tramways.

2. *Publicity and Other Methods to Reduce Accidents.*

Speaker—Mr. Junyent, chief of service, Barcelona Tramways.

3. *The Economic Situation.* Percentages of the total operating expenses caused by the principal items of expense (wages, power, maintenance, etc.) and percentages of the principal items making up operating revenue in the different countries from 1914 to 1925. Effect on the local transportation industry of the general economic situation. Possibility of the determination of an economic index applicable to variations in fares.

Speakers—Messrs. L. Boulle, manager Compagnie Générale Française de Tramways of Paris; Bouteau, manager of the Compagnie Générale des Chemins de fer Vicinaux of Paris, and Haerens, manager of the Consolidated Railway of Belgium.

4. *Merchandising of Transportation.* Facilities supplied in the way of (a) scheduled speeds; (b) distances between stopping points and method of marking stopping points; (c) special methods to speed up service economically during the rush hours.

Speaker—P. Mariage, manager of transportation of the Paris Tramway System.

5. *Standardization of Electric Railway Motors.*

Speakers—Mr. Peridier, director of research Paris Tramway System, and Roman Podoski, professor at the technical school at Warsaw.

6. *Track Switches.* Switches of the automatic type and other switches operated from a distance on electric railway lines, particularly those with high traffic density.

Speakers—Mr. Battaille, manager of the engineering department Liége Tramways, and Mr. Stoffels, chief engineer of the Amsterdam Municipal Tramways.

7. *Power Distribution.* Results from automatic substations, substations controlled at a distance, and mercury-arc rectifiers.

Speakers—Mr. Lombard-Gerin, general manager Omnibus & Tramway Company of Lyons, and Mr. Odermatt, engineer of Brown-Boveri & Company, Inc., Baden.

8. *Rail Motor Cars.*

Speakers—J. De Croes, manager Société Nationale des Chemins de fer Vicinaux of Brussels; F. Level, manager Compagnie Générale de Voies Ferrées d'Intérêt local of Paris, and Commander Mellini, chief inspector for the government of railways, tramways and automobiles in Italy.

9. *Ties.* The results obtained during and after the war with substitute ties, notably those of steel and concrete.

Speaker—Mr. Burton, chief engineer on track to the management of the Société Nationale des Chemins de fer Vicinaux of Belgium.

10. *Buses and Bus Operation.* Design of bus bodies, including dimensions, arrangement of seats, steps, facilities for handling baggage; chassis, springs, tires, and other equipment.

Speakers—M. Chauchat, manager of the Société Industrielle de Transports Automobiles of Paris, and J. De Croes, manager Société Nationale des Chemins de fer Vicinaux of Belgium.

COMING MEETINGS OF *Electric Railway and Allied Associations*

Jan. 26-29—Society of Automotive Engineers, Annual Meeting, Detroit, Mich.

Jan. 27—New York Electric Railway Association, Hotel Commodore, New York, N. Y.

Jan. 28-29—Central Electric Railway Association, Lincoln Hotel, Indianapolis, Ind.

Feb. 5—Metropolitan Section, American Electric Railway Association, Engineering Societies Building, 29 West 39th Street, New York, N. Y., 8 p.m.

Feb. 11—Central Electric Railway Master Mechanics' Association, Portage Hotel, Akron, Ohio.

Feb. 18—A.S.C.E., A.S.M.E., A.I.E.E. and A.I.M.M.E., joint meeting, Engineering Societies Building, New York, N. Y., 8:15 p.m.

Feb. 24-26—Electric Railway Association of Equipment Men, Southern Properties, Mobile, Ala.

March 8-11—National Railway Appliance Association, annual exhibition, Coliseum and Annex, Chicago, Ill.

March 17-18—Illinois Electric Railways Association, Illinois State Electric Association and Illinois Gas Association, annual joint convention, Springfield, Ill.

April 13-16—Southwestern Public Service Association, Galveston, Tex.

Unification of Wire and Sheet Metal Gages Proposed

THE American Engineering Standards Committee has been requested by the Society of Automotive Engineers to take up the unification of wire and sheet metal gage systems in order to arrive at a national standard system of designating the diameters of metal wires and the thicknesses of metal sheets. The systems of gage numbers by which these products are generally designated at present have been developed and adopted in the course of time in different trades and for different products, as steel and copper wire, aluminum, brass and zinc sheets, etc. Thirteen gage systems are now in use in this country. This wide diversity necessarily leads to confusion. Some organizations, in order to avoid such confusion, have done away with gage numbers entirely and designate wire and sheet metal sizes exclusively in decimal fractions of an inch.

A conference of all industrial groups interested in this problem will be called in the near future, to discuss the desirability and possibility of unifying the various existing gage systems into a consistent national system or systems. A question closely connected with that of the designation of wires and metal sheets is whether or not it is feasible to thin out the series of diameters or thicknesses actually listed in the catalogs of the different trades. Inasmuch as a procedure of this nature involves the element of "simplification," the A.E.S.C. and the Division of Simplified

Practice of the Department of Commerce have made arrangements to cooperate actively in this matter. The latter body will undertake to bring about production surveys in the trades concerned, in order to find out the relative importance of wires and sheets made to the several gage numbers.

Oklahoma Utilities Choose Tulsa for 1926 Meeting

TULSA has been selected for the eighth annual convention of the Oklahoma Utilities Association. It will be held at the Mayo Hotel, March 9, 10 and 11 next. This announcement was made by E. F. McKay, manager of the association, at the conclusion of the quarterly meeting of the executive board held recently. Extensive exhibits by manufacturers of public utility equipment will be an important feature of this convention.

Illinois Utilities' Joint Convention

ON WEDNESDAY and Thursday, March 17 and 18, 1926, the sixth annual joint convention of the Illinois Electric Railways Association, the Illinois State Electric Association and the Illinois Gas Association will be held in Springfield, Ill.

A program of interest to every branch of the utility industry is being prepared. As in the past, there will be joint morning sessions and separate afternoon sessions for each association. The joint sessions and all railway association sessions will be held in Hotel Abraham Lincoln.

Applications have been made for reduced railroad fares. If these are granted identification certificates, acceptable over the Illinois Traction System as well as over the steam roads, will be sent out with the programs, which will be available about March 1.

Diesel Electric Locomotive vs. Electrification

POSSIBLE effects of the Diesel electric locomotive on heavy electrification will be the subject of an important meeting to be held on Feb. 18 at the Engineering Societies Building, 33 West 39th Street, New York.

The meeting is to be held jointly by the Metropolitan sections of the A. I. E. E., A. S. C. E., A. S. M. E. and A. I. M. E. The principal speakers of the evening will be C. B. Stein, general manager Central Railroad of New Jersey; Hart Cook of the MacIntosh & Seymour Corporation and N. W. Storer of the Westinghouse Electric & Manufacturing Company.

American Association News

Traffic Congestion

WAYS by which the electric railways can help in the solution of the serious problems of traffic congestion were discussed at a meeting of the committee on traffic congestion, held at the Statler Hotel, St. Louis, Mo., on Jan. 8. Communications on traffic congestion from R. W. Emerson, C. H. Evenson, H. J. Lockwood, W. E. Thompson, G. B. Anderson, J. A. Miller, Jr., J. A. Greig, E. S. Rider, R. B. Hill (supplementing Mr. Anderson's communication), A. W. Brohman and W. H. Maltbie were read.

Mr. Fink of the Pittsburgh Railways told the committee of conditions in Pittsburgh and of the success of efforts to secure co-operation from the city traffic committee, which worked with the company to eliminate traffic congestion, accepting in a great many cases the recommendation of the traffic engineer of the Pittsburgh Railways.

D. L. Fennell briefly outlined the conditions in Kansas City, and recommended that efforts be made by the committee to get outside influences, such as the Hoover committee, to cooperate with the committee. G. B. Anderson, in discussing Mr. Fennell's remarks, stated that national organizations interested in traffic congestion would co-operate with this committee, and spoke very interestingly of the conditions in Los Angeles and the success that Los Angeles has had with the Property Owners' Association.

C. H. Evenson briefly outlined parking conditions in the Loop district in Chicago, and stated that his company had not pushed the "No Parking" idea and would not do so until the public had been educated to the benefits to be derived from "No Parking" rules. He also stated that by rerouting cars and eliminating left-hand turns a wonderful improvement had been made in traffic congestion, and cars had been speeded up a great deal in the congested area. He told of the success of the efforts of his company in working with the Chamber of Commerce, and recommended that the committee work out a standard traffic code.

S. W. Greenland, representing the United Railways of St. Louis, outlined the plans that the company has worked out, and also spoke of a further plan of one-way streets that will soon be submitted to the city traffic authorities, which, he stated, would be of great benefit in eliminating traffic congestion on the streets of St. Louis. He stated that the city of St. Louis has a central traffic committee composed of three officials. Mr. Greenland also told of the efforts of the railway to educate property owners as to their loss by the decentralization of business. Talks along this line were also made by Messrs. Anderson and Evenson in discussing Mr. Greenland's remarks.

It was decided that the committee should get in communication with the Hoover committee, calling its attention to the activities of the A.E.R.A. committee.

Mr. Anderson outlined the success they had in Los Angeles in regulating pedestrian traffic. He also stated that automatic traffic signals were working very satisfactorily in Los Angeles and speeding up all traffic. Mr. Evenson recommended that a number of talking points along the line of traffic elimination be taken up and if possible "sold" to the public, such as the number of passengers carried on the cars as compared with automobiles, etc.

Chairman Meyers appointed Mr. Greig a committee of one to get a report of all cities that have had traffic surveys made.

Mr. Fennell stated that in securing a motor coach franchise for three years from the city for the Kansas City Railways the number of stops per mile and designated loading zones had been incorporated in the franchise. He suggested that all companies figuring on securing franchises in the future incorporate this idea, as it does away with all unnecessary stops and thus speeds up the schedules.

Mr. Anderson suggested working along the lines of getting a law compelling drivers of all commercial vehicles to pass a test before being allowed to drive. He stated that if a test of this kind would be required better men would be on commercial vehicles, and this would go a long way toward relieving traffic congestion.

Mr. Greig recommended the adoption of a standard traffic code. Mr. Evenson suggested that the committee come back to the next meeting with some concrete ideas on a standard traffic code. Mr. Fink suggested that some thought in the making of this code be given to cruising taxicabs.

Chairman Meyers suggested that each member of the committee draw up a set of traffic rules, and use as far as possible the recommendations of the Hoover committee; that he thought it would be of benefit for each company to try to organize in its city a committee to work with the company in the adoption of rules for the purpose of regulating traffic.

The next meeting will be in Cleveland on April 2.

Members present were: A. R. Meyers, chairman; G. B. Anderson, J. A. Greig, C. H. Evenson, R. W. Emerson, J. P. Pope, D. L. Fennell, A. J. Fink and J. P. Tretton.

Steel Industry in Movies at Next Metropolitan Meeting

STEEL, the giant industry, will be the subject for the next meeting of the Metropolitan Section, A.E.R.A., to be held at the Engineering Societies Building, New York City, at 8 p.m. on Feb. 5. G. A. Richardson, manager technical publicity department Bethlehem Steel Company, will give the address on this subject, which will be illustrated by several reels of motion pictures.

Entertainment features that will follow will be provided by employees of the Third Avenue Railway system.

The usual Dutch-treat dinner, which has become a feature in connection with the monthly meetings of the Metropolitan Section, will be held at Keene's Chop House, 36th Street east of Sixth Avenue, beginning promptly at 6:15.

Maintenance of Equipment

Good Drainage Necessary at Interurban Car Stops

SOILS of all kinds with a variety of drainage problems are encountered by the Pacific Electric Railway on its interurban system. This company operates more than 1,100 miles of electric interurban lines and has approximately 1,500 car stops. As explained by Clifford A. Elliott, cost engineer for the company, the landings at stops are placed on each side of the track and are

Corrugated Iron Culvert Installed Under Passenger Landing at Vineyard Station of the Pacific Electric Railway

located over drainage ditches adjacent to the roadway. It is thus frequently essential to provide longitudinal culverts under them to care for proper removal of water.

Years ago, when some of these landings were first built, many redwood box culverts were installed. The life of these culverts averaged about five years, and the company tried other methods of construction in order to secure longer life. For the past fifteen years the company has used Armco corrugated iron culverts, particularly where a large amount of water had to be carried away, and where the damage that might result from inadequate drainage would be great. The corrugated iron culverts used average from 12 in. to 18 in. diameter and extend the full length of the landings, which are from 75 ft. to 350 ft. long. To carry out the effect of a standard landing construction, cobble-stone end retainers are provided. The quarry waste material in the landing, being white in appearance, can be readily observed by trainmen when approaching the landing at night. The end retainers are also whitewashed to carry out the light effect. This construction is proving satisfactory and economical.

COMPARISON OF COMPANY RECORDS

Company	Car-Miles	Total Pull-Ins	Chargeable Pull-Ins	Car-Miles per Chargeable Pull-In
New Orleans	15,060,906	232	79	190,644
Nashville	5,499,214	145	44	124,982
Knoxville	2,678,720	128	68	39,246
Memphis	7,482,110	571	391	19,136
Birmingham	11,271,437	869	726	15,525
Atlanta	13,093,604	1,071	760	17,228
Mobile	2,113,361	211	152	13,904
Texas Electric	5,654,158	574	407	13,892
Little Rock	2,787,415	289	216	12,905
Covington	3,899,801	538	270	14,444
Dallas	8,916,818	1,365	914	9,756
Chattanooga	2,393,433	839	628	3,811
All companies	80,850,977	6,832	4,655	17,350

Pull-Ins Compared for Southern Properties

COMPARATIVE statements of car pull-ins for the twelve months ended December 31, 1925, have just been compiled by the Electric Railway Association of Equipment Men, Southern Properties. These show a total of 6,832 pull-ins for all causes, of which 4,655 were chargeable to equipment. Car-miles operated by the twelve companies comprising this association total 80,850,977. Average car-miles per chargeable pull-in for all companies were 17,350. The highest mileage per chargeable pull-in was recorded by the New Orleans Public Service, Inc., as was also the case for the year 1924. Second place went to the Nashville Railway & Light Company. A comparison of the pull-in records of the electric railways in the twelve cities is given in an accompanying table.

Reports compiled by the association show also the causes of pull-ins. For the year just ended the largest number, 1,258, resulted from failure of car wiring and control apparatus. Under this head are included circuit breakers, line breakers, controllers, contactors, relays, headlights, lighting fixtures, lightning arresters, electric bells, trolley wheels, rheostats, motor leads, cables and field jumpers. Next in point of number were the failures of armatures, armature shafts and armature bearings, totaling 1,036. Brakes and brake riggings were responsible for 769 failures. Miscellaneous troubles with car bodies, seats, heaters, etc., caused 501 pull-ins. Wheel, gear, truck, axle and journal failures numbered 402. Failures of motor fields numbered 394. Commutators, brushes and brush-holders were responsible for 295 failures.

Cars pulled in on account of derailments, broken doors, broken glass or accidents are classified as being chargeable to transportation rather than to equipment and are not listed as chargeable pull-ins. A summary of the causes of chargeable pull-ins on these Southern properties is given in an accompanying table.

SUMMARY OF CAUSES OF PULL-INS

	New Orleans	Nashville	Knoxville	Memphis	Birmingham	Atlanta	Mobile	Texas Elec.	Little Rock	Covington	Dallas	Chattanooga	Total
Armatures and armature bearings	20	12	11	105	234	186	31	63	16	64	184	110	1,036
Commutators and brushes	1	5	0	54	33	63	3	37	5	3	53	38	295
Fields	9	2	0	21	141	83	18	11	16	15	48	30	394
Car wiring	17	12	32	82	109	231	40	145	69	75	291	155	1,258
Wheels, gears and trucks	9	3	3	24	102	80	11	35	25	14	37	59	402
Brakes and brake rigging	23	8	18	30	59	95	30	70	67	39	199	131	769
Car bodies	0	2	4	75	48	22	19	46	18	60	102	105	501
Total	79	44	68	391	726	760	152	407	216	270	914	628	4,655

Improvements in Old Type Motors*

DECREASED maintenance has been effected through a number of changes made in construction details of old type motors operated by the Denver Tramway, Denver, Col. Some motors had the ventilation intake at the bottom of the motor shell and trouble was experienced from dirt, leaves and snow being drawn inside it. A new duct has been welded on the outside of the shell so that air is taken in at a higher point. This has decreased short circuits and increased the life of carbon brushes practically 300 per cent.

Armature bearings of the old style had end cover plates fastened on with three screws. These were a source of considerable trouble due to their working out and permitting water and dirt to enter to bearings. Bearings were destroyed and armatures rubbed on the pole faces so as to require rewinding. This condition has been remedied by casting these bearings with a hole tapped for ¾-in. brass pipe plugs. With this arrangement the loosening is prevented.

Some old-style General Electric type 58 motors had field coils wound with round wire. The insulation had become baked and the fields short circuited so as to require scrapping. Field coils are now wound with a flat copper ribbon insulated between turns with asbestos tape, in the most approved manner. When a field wound in this manner becomes short circuited it may be rewound and the same copper ribbon can be used indefinitely.

On many of the old-style motors the field terminals were attached to the winding through a piece of flat copper soldered to both terminal and the field winding. This strip gave considerable trouble due to breakage, and to remedy this a strip of flexible copper braid is now used to attach the terminal to the field winding.

Brush-holders on some of the old-style motors were fitted with non-adjustable tension springs so that when the spring weakened a new one was required. A new brush-holder casting has been designed so that a modern adjustable coil spring with hammer can be used and proper tension is maintained at all times.

On some armatures the connections for the bottom leads from the coil are brought out straight to the commutator. Vibration caused considerable breakage in these leads. This trouble has been almost entirely eliminated by placing a bend in the bottom lead before attaching it to the commutator. This allows for expansion and contraction and relieves the strain on the wire.

*This article is based on material included in the brief submitted to the Charles A. Coffin Prize Committee of the American Electric Railway Association by the company named.

Fiber Plates Keep Tension on Armature Wire

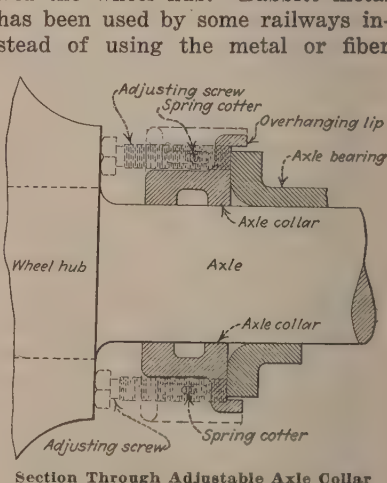
SIMPLICITY is the outstanding feature of a device arranged in the Albany Street shops of the Boston Elevated Railway to keep tension on the wires used in winding armature coils. Two flat fiber plates are attached to the outer end of a wooden arm extending from the winding bench toward the wire reels. The wires pass between the plates. The latter are held in position by a pair of bolts which pass through the wooden arm, the plates, and a wood block which rests on them. By tightening the nuts on these bolts the fiber plates are brought close together and greater tension is secured in the wires.

Armature Winding Wires Pass Between Fiber Plates Bolted to the End of a Wooden Arm

Keeping Motor End Play to a Minimum

MAXIMUM allowable end play of railway motors should be from ¼ in. to ⅜ in. These limits are desirable since, if they are exceeded, the gear may rub and cut the inside of the gear case, and these figures for end play correspond to the average clearance between the gear and inside of the gear case on standard types of railway motors. Since the axle collar limits the end movement of the motor, it is naturally subjected to wear. Checking of the amount of motor end play is therefore a necessary part of motor inspection. If axle collars are neglected and adjustments are not made at regular inspection periods the end play becomes excessive and the motor is subjected to excessive side movement and pounding. This is particularly noticeable when the car is rounding a curve or running on rough tangent track.

Axle collars are made of several different types, and as a result several different methods for taking up the wear are used. Probably the most general method is to take up the end wear on axle bearings by means of split rings, either of iron or of hard fiber. These rings are made of different thicknesses, and when opened up are forced over and around the axle, between the collar and the wheel hub. Babbitt metal has been used by some railways instead of using the metal or fiber rings. This has proved very satisfactory, but of course requires the removal of the axle collar for babbitting.



Section Through Adjustable Axle Collar

In order to provide a positive and permanent means of taking up the end play on axle collars due to wear an adjustable type has been de-

veloped by the Westinghouse Electric & Manufacturing Company. The accompanying drawing shows this type of axle collar in its location on the car axle. This type of axle collar is provided with two adjusting bolts, the heads of which are backed up against the wheel hub. These bolts can be backed off the distance necessary to make the collar long enough to take up the maximum allowable axle bearing flange wear, after which the worn bearings should be replaced by new ones.

On some types a dust-protecting, overhanging lip is used. This affords a protection against the entrance of dust and dirt on to the rubbing surface of the axle collar and the axle bearing flange. This protection reduces the wear at this point and consequently lengthens the life of the bearing. Some operators have objected to this lip as it interferes with the removal of the motor from the car axle. Removal, however, can be carried out satisfactorily if the work is done in the following order: (1) Remove the pinion and axle; (2) remove the lower half of the pinion end axle bearing; (3) remove the top half of the pinion end axle bearing; (4) shift the motor on the axle against the gear, and (5) remove the commutator end axle cap and bearing without disturbing the axle collar.

Circuit Breaker Testing

A NEAT circuit breaker testing outfit is a part of the equipment of the Beaverton, Ore., shops of the Southern Pacific Company. It includes the necessary switches and panels mounted on a platform with wheels. Two Edison A-12 storage-battery cells furnish 600 amp. at 3 volts and can provide a 500-amp. discharge for two minutes. The usual type of resistance proved unsatisfactory so a carbon resistance pile is now used, and this gives extremely small graduation of the current.

New Equipment Available

Tapered Body, High Angle Dump Truck

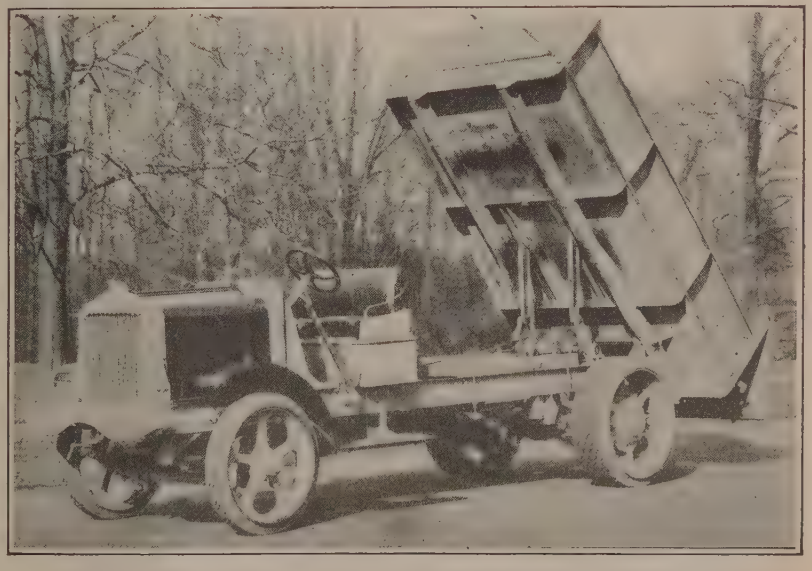
GREATER speed and safety in dumping sticky loads, combined with an auxiliary five-speed transmission, gives extra power and flexibility to a new heavy-duty dump truck built by the White Company, Cleveland, Ohio. The new model 52-D has an auxiliary transmission affording the equivalent of five speeds and gives extra low-gear pulling power for high hill climbing and getting out of holes or mire. A new dumping mechanism and tapered dump body are other improvements which are combined with a big sturdy tubular type radiator; spring cradles on the frame; a wide, heavy pressed-steel bumper; heavy easy-working steering gear; an air temperature regulator that saves fuel and adds to engine efficiency in all seasons; heavy springs; reinforced frame of chrome nickel steel, and brakes with drums of a special metal that insure quick, certain stopping and long brake life.

The auxiliary transmission gives maximum flexibility of power. It enables the driver to gear down to the hardest pull when it is needed, and it allows the main transmission to work at a higher top speed on the level. Power is transmitted in a straight line from the starting crank to the rear axle when operating under load.

Incorporated in the same case with the auxiliary transmission is the mechanism which operates the dumping hoist. The tapered dump body is raised on sturdy arms and links by means of a gear drive. It lifts to an angle greater than 50 deg. The body is under positive control in all positions and may be held at any angle. It is lowered by the same mechanism that hoists it, but can be lowered while the truck is in motion.

The body is mounted so that load weight is properly distributed and the dumping point is far back. A double-acting tail gate facilitates dumping and the low-body sides make loading from the ground exceptionally easy. The dumping mechanism is set solidly down in the frame in a dirtproof and weatherproof housing. The gears run in oil.

The wheelbase of the model 52-D is 156 in. It has solid tires, 36x6 front and 40x12 rear.



A High Dumping Angle with Improved Hoist Mechanism Are Features of the New Heavy-Duty Dump Truck

Aluminum Graphite Paint

RECOMMENDED particularly for use wherever a light colored paint is required, the Joseph Dixon Crucible Company, Jersey City, N. J., has just brought out an aluminum graphite paint. It is composed of aluminum and flake silica-graphite as a pigment and boiled linseed oil as a vehicle. The aluminum is of flake formation and thus combines easily with the flake graphite. These flakes lapping over like fish scales provide a covering of unusual elasticity and durability. The combination of aluminum and graphite results in a paint that, it is said, is not affected by gases and fumes. It resists sunlight, air and moisture and its reflecting qualities keep temperatures of cars considerably lower than is possible with darker paint.

The News of the Industry

Rochester Road to Operate Line in Abandoned Canal Bed

That the New York State Railways eventually will operate the subway rapid transit and industrial railroad in the bed of the abandoned Erie Canal in Rochester, N. Y., is indicated.

At a conference held recently of the Citizens Committee, named by Mayor Van Zandt to study the operation of the new line, with James F. Hamilton, president of the railways, Mr. Hamilton was asked to submit to the committee figures on the sum the company would pay the city for its use.

Payment was to be figured, it was said, on a car-mile basis for each car, both interurban and city, as well as freight cars.

This step was taken to mean that the committee on receipt of the railway's figures would recommend lease of the subway railroad to the traction company.

The 8-mile line from the west end of Rochester to the eastern limits, constructed by the city, is virtually completed and much speculation was aroused as to its operators.

The report of the committee is expected to be submitted to the Mayor in the near future.

Terminal and Transportation Plan Outlined for Newark

The Pennsylvania Railroad, the city of Newark and the Public Service Corporation of New Jersey have recently reiterated their willingness to enter upon a program for the expenditure of $25,000,000 for the erection in Newark of a new union terminal and the laying of a vast network of high-speed surface lines, linking northern and western New Jersey with Newark as the natural gateway to New York.

The plans in detail contemplate the abandonment of Manhattan Transfer, the extension of the Hudson Tube system to southern sections of Newark, three double-track steel bridges over the Passaic River to accommodate increased traffic brought about by the transfer from electric to steam locomotives at Newark, and the erection of a Pennsylvania passenger station and steam terminal at Wright Street, in the down-town section of Newark.

Thomas W. Hulme, vice-president of the Pennsylvania Railroad in charge of real estate, has sent a letter to Mayor Raymond of Newark, asking that official to name a committee to go into conference with the railroad committee.

The railroad, Mr. Hulme said, has $12,000,000 ready for expenditure, while it is estimated that Newark and the three arms of the Public Service system will each share in the expenditure of an additional $13,000,000. Transportation systems involved in the plan include steam and electric railway lines, electric surface and subway lines and buses.

The Public Service Railway and railroad branches have the most definite transportation plan outlined for them. This includes, first, a high-speed surface line into north Jersey and the west of Essex County for the feeding of passengers into the Newark Terminal. Considerable rerouting of surface car lines will also result when the terminal is built.

Rerouting Plans for Detroit

Car rerouting plans affecting three major street car lines in the downtown district of Detroit have been presented to the City Plan Commission by the Department of Street Railways. Under the proposed plan, Grand River and Hamilton cars would be turned south at West Park instead of Griswold Street and Woodward Avenue, the Grand River-Jefferson cars going over West Park, State and Griswold Streets south to Jefferson Avenue, and Grand River-Capitol Park cars turning north on the east side of Capitol Square Park. The Hamilton cars would also follow this latter route, thus taking them off Woodward Avenue. The new routings are planned to relieve congestion around Capitol Square Park and facilitate traffic movements.

Two lines of tracks are proposed in place of the one now on the east side of Capitol Square Park between State Street and Grand River Avenue, with loading platforms on the east side of the park. Subway walks from the loading platform to the east side of Griswold Street are proposed to provide easy ingress and egress. This will give a wider thoroughfare for vehicular traffic, minimize interruptions to traffic and provide safety for the car riders who board cars or disembark at this point.

New Grant for St. Louis Discussed

Mayor Outlines Fundamentals He Believes Should Be Incorporated in New Operating Grant—Company Favorable to Mayor's Service-at-Cost Suggestions

VICTOR J. MILLER, Mayor of St. Louis, Mo., has outlined the requirements he believes should be incorporated in any new franchise granted by the city to the St. Louis Public Service Company, as the United Railways will be known when the reorganization is finally consummated. The Mayor stated he would insist that the franchise be submitted to the citizens under the initiative or referendum provisions of the city charter.

In his brief the Mayor favors co-ordination of service (presumably of buses and street cars); the right of the city to determine the kind and character of service to be rendered at cost; the right of the city to acquire the property if it should desire to operate the transportation system or have some agency other than the company operate it; and the adoption of a service-at-cost plan that will insure a fair return to the investors in the company. After reviewing the place which adequate transit plays in city development the Mayor says in part:

> The citizens of St. Louis do not expect to receive something for nothing, but they do expect their money's worth. The city will require that any company operating its transportation service shall invest large sums of money in extending and improving that service. If such money is to be secured through private investment, it can only be secured if the investor is given a fair assurance of interest on his investment and its ultimate return to him. Any ordinance which the city may promulgate and which in our opinion will assure the best service at the minimum cost to the users should originate from or be submitted to the people.
>
> Operation must be carried on pursuant to the terms of a new modern and up-to-date franchise. I intend to cause an ordinance to be drafted that will protect the city and its citizens. This ordinance should be submitted to the people of St. Louis for their approval. Any company which wishes to operate in St. Louis must comply with all its terms.
>
> I favor a franchise which would give the city the right to determine the kind and amount of service to be rendered at cost. I favor a co-ordinated service to eliminate waste. The city must have the right to acquire the property, in case it should desire itself to operate the system or to cause it to be operated through some other agency. The investor should be given reasonable assurance of a fair return on his investment. Not only must the city be entitled to prescribe the kind and amount of service which is to be furnished, but it must give careful thought to the means of permitting such service to be efficiently operated. Mass transportation is essential.
>
> This administration is making a careful study of the traffic situation. To some extent we can profit by the experience in other cities. Any transportation company operating in St. Louis must be willing not only to conform to such traffic regulations as may be promulgated, but must also spend such sums as will be necessary to rearrange and reroute its cars.
>
> Transit by subways or elevated must come in the future, and the work of planning and laying out the transportation system so that it will facilitate such development must be started now. In the meantime, however, we can accomplish much, both as to speed and amount of transportation service, by properly regulating traffic.
>
> As soon as possible there will be submitted to the St. Louis Public Service Company certain fundamental propositions which the city will insist must be a part of any ordinance submitted.

J. K. Newman of Newman, Saunders & Company, in charge of the United Railways reorganization, was in St. Louis on Jan. 18. In commenting on Mayor Miller's statement he said that he was satisfied with the Mayor's declaration. He agreed that any fran-

chise should be submitted to the people for a final vote.

A statement about the matter, approved by the reorganization committee of the United Railways, follows in part:

In general, the views of Mayor Miller are acceptable because they represent a modern policy which has prevailed in many of the largest cities in the settlement of the difficult problem of establishing transportation on a sound basis.

Perhaps the most important feature of Mayor Miller's program is the adoption of the service-at-cost system. In short, this means that the value of the property established by the State Public Service Commission must be accepted by the company as the agreed value of the railway system. On such valuation the company will be allowed to earn only a fair rate of return and no more. No private business enterprise in St. Louis could accept such limited and restricted right to earn, but the company recognizes the trend of the times and will accept what has been adopted as a fair policy in other cities.

The interest of the public requires that the new franchise should become effective at the earliest possible moment so that the receivership may be terminated. Publicity should be given to each and every point involved. If the public desires that the franchise should be approved by the people at the polls, then the city authorities should so provide, even though such procedure would involve added delay and expense.

The fare to be charged under a service-at-cost franchise will depend entirely upon the kind and character of service. A railroad traveler cannot ride in a Pullman car at the price paid in a day coach. The company again indorses Mayor Miller's policy that the character of service should be controlled by the city and the car riders. Such service should not be inferior to the best service in other large cities merely to keep the fare at too low a level, nor should it be so extravagant that it will necessitate a fare beyond the wishes of a majority of the patrons.

The city can do much to keep the rate of fare down by not imposing on car riders unnecessary burdens of taxation, street paving, franchise assessments, licenses and other charges entirely controlled by the city. These charges now imposed by the city and collected from car riders constitute a part of the fare charged. If these burdens are not placed upon the car riders, they and only they get the benefit thereof, as under the service-at-cost system the company, for the life of the new franchise, will be confined to a limited return on the valuation of the property fixed by the Public Service Commission.

The company must have the fair return on investment, since it cannot procure from investors the large sums necessary to provide for better service unless such investors are given a fair assurance of interest on their investment and ultimate return of capital. No transportation company can succeed without the confidence and support of the city, the public and the press.

Service Survey Suggested in Milwaukee

Latest developments growing out of the Milwaukee Electric Railway & Light Company's commission-approved plan to install one-man cars on its Walnut Street line in Milwaukee, Wis., starting March 1 centers around a statement issued by S. B. Way, president of the company, in defense of the one-man car. Cars of this type are already in use on four lines in Milwaukee to keep down operating costs, but further economies in operation are necessary, according to Mr. Way, if the railway division is to earn the return on its investment allowed by law. According to Mr. Way earnings for the single-fare area reached only $7,825,045 in 1925 in contrast with $7,933,763 in 1924, a difference of $108,718. In 1925 cars operated a total of 17,651,161 miles against 17,538.831 miles in 1924. As a move intended finally to put at rest any question about the adequacy of the service rendered the Railroad Commission has decided to survey the railway service situation.

Santa Claus in Safety Hall

Wives of Louisville Officials, Headed by Mrs. Barnes, Put Human Touch Into Railway

Of all places for old Santa to show up, isn't Safety Hall, Louisville, one of the most appropriate? Anyway, that is just what he did. More about that later. Safety Hall is one section of a building which for many years served as the shop of the Louisville Railway. In April, 1921, when the company was in need of a place of its own to celebrate the victory of safety over carelessness, this particular section of the old shop building was fitted out with a dining room, kitchen and lounge room, appropriately dedicated to the interest of safety. Each month since that time the victors in the railway's accident elimination contest have put their feet under the well-filled tables of Safety Hall.

Early in the fall of 1925 Mrs. James P. Barnes, wife of President Barnes, communicated with Santa Claus and exacted a promise from him that he would appear in person with a present for each child of every employee at a special Christmas party. With this important part of the program disposed of, Mrs. Barnes called to her assistance Mrs. F. H. Miller and Mrs. Samuel Riddle, the wives of the two vice-presidents of the company, and began the task of finding out how many children there were, their names, ages and sex, so that old Santa would not suffer the embarrassment of presenting a doll to some sturdy boy or an air rifle to a curly-headed little girl. Through the foremen of departments, the names, ages and sex of all children between the ages of one and twelve years were obtained and an appropriate toy was wrapped separately and the child's name placed on a package for each of the 1,200 children. Even if one's experience has been limited to purchasing, wrapping and marking only presents for the members of his own immediate family he can easily imagine the labor necessary to perfect the plans for the crowd which gathered at this tree.

Information from Santa to the effect that the Christmas rush would make it necessary for him to appear at Safety Hall on Dec. 21 and 22, the first day for white children, the second for colored children, started a large corps of willing workers making the necessary preparations to welcome him. The hall was beautifully decorated with evergreens and draped with icicles and snow. A Christmas tree reached to the ceiling. It was decorated with hundreds of sparkling ornaments and colored lights stood just inside the hall to bring forth exclamations of wonder from the happy kiddies as they entered.

In order to expedite distribution, the presents were placed in alphabetical order in bins along the wall, and when the crowds of happy youngsters arrived they found old Santa himself at the door to greet them and personally conduct them to one of his many assistants, who promptly placed their own present in their hands and invited them to eat all the ice cream cones they desired while looking at the tree or enjoying the warmth of the big log fire in the old-fashioned fireplace in the lounge room before leaving for home.

Care was taken by the ladies in charge to see that any children who by reason of sickness or other disability were unable to attend the party received their presents at home. A surplus of toys was on hand in case any one had been overlooked. The left-over toys, of which there were quite a number, were divided equally between the children at the City Hospital and the Family Service Organization.

Awards Made for Station Names on North Shore Line

The nine stations on the new Skokie Valley route of the Chicago, North Shore & Milwaukee Railroad—the North Shore Line — were officially designated on the map recently when the committee of judges announced its decision in the $1,000 award station-naming contest. The names of the stations with the winners of the nine $100 awards follow:

Station No. 1—Harmswoods. Winner, Mrs. J. A. Barber.

Station No. 2—Glenayre. Winner, Ogden A. Clemens.

Station No. 3—Wau-Bun. Winner, Bertha F. Gordon.

Station No. 4—Northbrook. Winner, Northbrook Civic Association, Northbrook, Ill.

Station No. 5—Woodridge. Winner, Mrs. Marjorie M. Weese.

Station No. 6—Briergate. Winner, Bessie R. Alexander.

Station No. 7—Highmoor. Winner, Mrs. Gertrude C. Crane.

Station No. 8—Sheridan Elms. Winner, Mrs. Belle Falwell.

Station No. 9—Skokie Manor. Winner, Dorothy Shanderg.

Sheridan Elms was chosen by the judges as the most appropriate name among all those suggested. Mrs. Belle Falwell, who won with this suggestion for Station No. 8, was also given the special award of $100 for this name. Checks for $100 have been mailed to each of the persons suggesting names chosen for the new stations.

Each suggested name was judged on its practicability and simplicity, historical value and originality.

The judges complimented the North Shore Line on its progressive attitude in permitting the people of Chicago and the North Shore to have a voice in naming these new stations in the beautiful Skokie Valley, where, without doubt, within a very short time there will be a large population.

New Colors for Detroit Cars

A. L. Drum, engineer for the receivers of the Detroit United Railway, Detroit, Mich., has authorized a decided innovation in car coloring. The new Detroit United design is of stream-line effect and in the five principal colors. The body of the car is painted in desert sand color with mahogany sashes, old ivory posts, vermillion red roof and light gray trucks. Parts suspended under the car are in black and all trimming and striping are in black. In addition there is a 2-in. red band just below the window sashes. The Detroit United Lines' monogram appears on the sides of the car in azure blue with black border.

Skip Stops Suggested for Baltimore

The Baltimore Traffic Commission has received a recommendation from Kelker, De Leuw & Company, Chicago, experts making a traffic survey of Baltimore, that a skip-stop plan of operating the street cars be put into effect during the busy hours of the morning and afternoon. The report to the commission states that the stopping places average 10.22 in every mile of track as compared with slightly more than eight in Washington and Chicago.

The report said that widening of streets, though expensive, will be necessary in many cases if the time spent between home and office, store or factory is not to be greatly increased in the future. It is pointed out that meanwhile the time consumed in traveling can be reduced for the majority of the workers if some of the stops are eliminated during the morning and evening rush hours.

The question of rerouting the street cars, four plans for which have been prepared by the experts and submitted to the commission and upon which public hearings will be held, is being discussed by civic bodies.

Bacharach Bill Up Again in Washington

It is said that strong efforts will be made to persuade the House judiciary committee to order public hearings on the bill of Representative Isaac Bacharach of the Second New Jersey District to prevent appeals to federal district courts from rulings of state utilities commissions.

This bill, in substantially the same form, has been before two previous Congresses, but hitherto all efforts to get it reported out of committee have failed. Despite this fact, Representative Bacharach has hopes of getting a public hearing similar to the four that were held by a sub-committee in the 67th Congress in 1922.

Members of the federal judiciary have complained of the practice of public utilities, without appealing, as is their right, to the highest courts of their own states, of seeking injunction in federal courts to restrain utilities commissions from enforcing their own orders. As the law now stands injunctions may be sought in federal courts, without going to the highest state courts.

Riggs Report for Toledo Approved

The City Council at Toledo, Ohio, has unanimously indorsed the report of Prof. H. E. Riggs as the basis for negotiations with Henry L. Doherty for changes in the Milner franchise and new operating plans at Toledo. A copy has been sent to Mr. Doherty.

Since the report has been published an effort is being made to arouse public sentiment to back any settlement that may be made through the negotiations.

Through the invitation of the Chamber of Commerce a mass meeting was addressed by Prof. Riggs in which he emphasized the need for co-operation among the business leaders to help city and company officials work out "a serious problem." He indicated that there were 5,250,000 riders a month on street cars and buses who must be served. He also pointed out that there was a franchise contract between the city and the traction company which should be carried out in order to keep the credit of the city good. He recommended that the grant be made flexible enough to serve the city and continue the contract through a co-ordinated street railway and bus system.

No Advance in Wages in Milwaukee Now

The request of employees of the Milwaukee Electric Railway & Light Company, Milwaukee, Wis., for a new and higher wage scale has been disallowed following a series of conferences between officials of the company and the Employees' Mutual Benefit Association, which conducted the negotiations for the employees. Settlement of the issue was influenced to a large extent when it was agreed that wage and cost of living conditions in Milwaukee were more than on a par with similar conditions in other cities that correspond in population to Milwaukee. Under the terms of the agreement reached, employees will continue to work until June, 1926, at the scale in force during the latter part of 1925. Conductors and motormen numbering upward of 1,000 of all grades in Milwaukee, Racine and Kenosha requested an advance of 5 cents an hour over the present rate of 50 to 61 cents an hour.

Mayor and Commissioner Discuss New York Transit

Mayor Walker of New York talked on the subject of transit before members of the Rotary, Lions, Kiwanis, Optimists, Exchange and Civitan clubs, assembled at a joint dinner at the Pennsylvania Hotel on Jan. 18. Among other things he said:

> It is conferences of this kind that lead us out of the fog on this great question, a question that requires solution and requires it now. I have no fear of the political effect of taking counsel with you and I promise to take full advantage of any suggestions you may make.

Major-Gen. John F. O'Ryan, representing the State Transit Commissioner, said the question of transit was divided into two parts, one providing additional facilities and the other making better use of the facilities that now exist. Even should the Legislature grant a further exemption from the city's debt limit, this would take several years to become effective, so that the immediate problem was to make the best of present facilities.

To accomplish this he said the Transit Commission offered the plan for unified control, through a quasi-public corporation to be organized, of the more than forty existing transportation companies within the city. This plan, said General O'Ryan, received no consideration by the preceding city administration, but was the one plan that would eliminate waste and bring efficiency of operation. General O'Ryan suggested redistribution of the city's population, so that it would live nearer the places of employment.

Railway Cars Again Operate in London, Ont.

Service was resumed recently by the London Street Railway, London, Ont., the tie-up ending after seven days. The relief came as the result of intervention by a group of business men. The Council insisted that the railway resume service before negotiations went further.

Steps will be taken to arrange a 60 days operation period at a 5-cent fare in the hope that during this period a definite permanent agreement can be made with the company. It is understood that the buses which have been operated are to be withdrawn soon for service elsewhere and that licenses will not be issued by the Police Commission for any more buses during the period of renewed agreement with the street railway. Elimination of the independent bus companies was demanded by the railway as the condition on which it would continue operation.

Engineers to Discuss Tube— P. R. T. Stock Increase Approved

Engineers of the Philadelphia Rapid Transit Company, Philadelphia, Pa., will discuss with Director Ehlers and his engineers the preliminaries which would lead to an agreement for the operation of the Broad Street subway. This was the substance of a statement issued by Mayor Kendrick of Philadelphia following a conference in the Mayor's office on Jan. 18. Thomas E. Mitten, chairman of the executive committee of the P. R. T.; Ralph T. Senter, vice-president in charge of engineering; City Transit Director Ehlers, Charles B. Hall, president of the Council, and City Solicitor Gaffney attended the conference. This was the first step taken by the city toward the negotiation of a contract with the Philadelphia Rapid Transit. Mr. Mitten said that "many decisions must be made by the city primarily, and the company secondarily, before the actual basis of a P. R. T. operating contract can be intelligently considered."

No Fare Advance in Pasadena

The California Railroad Commission has denied the application of the Pacific Electric Railway for an increase of its street railway and bus fares in the city of Pasadena. The commission finds that the permits for the bus line are held by the Pacific Electric Land Company and are entirely within the city. The commission held that the railway lines are making an adequate return under the conditions in that city.

Celebrates Car and Bus Service

Officials of the Portland Electric Power Company were guests at a jubilee dinner held at Pier 4 in the Peninsula district of Portland, Ore., celebrating the completion and opening on Jan. 1 of the new street car line and supplementary bus service to the St. John's region. This line was long pleaded for by residents of this region. About 400 prominent men in railway circles, city commissions, port representatives and community club boosters attended.

Increases for Detroit Municipal Railway Officials

Increases in salary totaling $9,800 annually have been granted officials of the Department of Street Railways at Detroit, Mich., by the Street Railway Commission. The advances are retroactive to Dec. 15, 1925. Col. H. U. Wallace, general manager of the municipal railway, heads the list with an increase of $3,000, from $15,000 to $18,000 a year.

William M. Hauser, auditor, who joined the forces of the D. S. R. last April, received an annual increase of $2,500, making his present salary $8,500 a year. D. A. Smith, general superintendent, was increased from $6,000 to $7,000 a year. F. J. Denny, now assistant general manager, was advanced from $4,000 to $5,000 a year and W. R. Dunham, executive engineer, received a $1,000 increase, raising his salary from $7,500 to $8,500 a year. Other increases were: A. C. Colby, superintendent of equipment, $500, from $7,500 to $8,000; P. A. Kerwin from $7,500 to $7,800.

Mayor Smith announced that the record that the D. S. R. officials have made fully justifies the increases. He cited that the present management has put the lines on a basis so substantial that the city will not have to borrow a cent or sell a bond to meet all its railway obligations. More buses are to be added. They will be paid for out of earnings, the Mayor stated.

Pennsylvania Company Inserts New Ad

The Beaver Valley Traction Company, New Brighton, Pa., recently inserted the following advertisement in a daily paper. It ran in part:

Sunday morning seems to be the worst morning that our trainmen have for making change. Patrons seem to depend upon the street car conductors to "break" the bills so there will be "change" for the church collections. Why not give us the correct amount and put the bills in the collection?

Purchase Referendum May Be Deferred

Despite 8,300 valid signatures on the petitions requiring a referendum on the proposed purchase by the Seattle, Wash., City Council of the Seattle & Rainier Valley Railway for $1,200,000, the measure may not go on the ballot on March 9, but may have to be submitted to the people at a special election later. City Comptroller Harry W. Carroll has pointed out that the filing of the petitions closed Jan. 9, and that he cannot certify them to the Council until Jan. 29. Forty-five days must elapse after that before they can be decided at an election. However, proponents of the referendum are going to try to get it on the March 9 ballot.

Atlanta Interurban Increases Rates

Increases in passenger fares and express rates effective Feb. 1 on the Stone Mountain interurban line were granted to the Georgia Railway & Power Company by the Georgia Public Service Commission on Jan. 12. The new passenger rates are exactly as requested by the company in a petition filed some months ago and on which a public hearing was held Dec. 3. The increase in passenger fares ranges from 25 per cent to 40 per cent above the present rates for single-trip fares and averages 10 per cent on monthly commutation ticket books. Express rates granted are less than those asked by the company, but the minimum express charge of 35 cents is the same as requested by the company.

For a number of years the Stone Mountain interurban line has failed to make a reasonable return to the Georgia Railway & Power Company on the money invested in it. Granting of the new rates also makes it possible for the company to establish its proposed bus line from the terminus of the Stone Mountain line to the location at which the actual carving is being done on Stone Mountain. This will be a real advantage to sightseers wishing to view the memorial but unwilling to pay the high jitney prices now demanded.

Fare Rates in Joplin Explained

Following receipt of an order from the Missouri Public Service Commission officials of the Southwest Missouri Railroad and the Joplin & Pittsburg Railway have increased fares on street car and bus lines in Joplin, Mo. The order provides that the increased rates shall remain in effect for six months. At the end of that time the rates shall be lowered to their former standard unless the commission may grant continuance of the higher fares. The commission further specifies that the rates may be modified or reduced to their former figure by that body before the six months have elapsed. The present fare of 5 cents on the urban lines is increased to 8 cents for one fare or two for 15 cents. The commission's order further authorized interchangeable transfers between street cars and buses of the two lines for a continuous passage in one direction. Free transportation will be given children under five years old. Those between five and twelve years will be charged 5 cents and will be given a 2½-cent coupon good for another passage. The fare advance has been mentioned briefly in these pages.

News Notes

One-Man Car Complaint Withdrawn.—Hearing on the petition of E. C. Smith and others against the use of one-man cars in Atlanta, Ga., by the Georgia Railway & Power Company before the Georgia Public Service Commission was indefinitely postponed on Jan. 11 when the petitioners withdrew their complaint. It was stated, however, that the complaint was withdrawn to permit the petitioners to observe the cars in operation.

Seven-Cent Fare Continued.—The Public Service Commission on Jan. 15 authorized the Binghamton Railway, Binghamton, N. Y., to continue in effect the present 7-cent rate charged in Binghamton, the villages of Port Dickinson, Johnson City and Endicott and in the town of Union, Broome County. It is provided that the fare for a single ride between Johnson City and Endicott shall be 10 cents, with a fare of 15 cents for a round trip made on the same day.

Franchise in Little Rock Amended.—The City Council of Little Rock, Ark., recently passed an ordinance amending the franchise of the Arkansas Central Power Company which gives the company permission to construct and maintain "loops" at the terminals of several of its lines. The lines to be benefited by the improvement are the Rock Island, East Sixth Street, East Fourteenth, West Ninth, South Highland and Fifteenth Street lines in Little Rock. The "loops" are to be built on private property with shelters to protect waiting passengers. The franchise is to end Sept. 27, 1951, the date upon which the company's present franchise expires.

Transfer Charge Increased.—The Indianapolis Street Railway, Indianapolis, Ind., was authorized by the Public Service Commission to increase its transfer charge from 1 to 2 cents, effective Jan. 1. It is expected the boost will increase street car revenues $100,000 annually. The previous fare increase granted the company was offset by a decrease in customers.

Ten Cents in Belleville.—The East St. Louis & Suburban Railway, which operates the city railway and bus lines in Belleville, Ill., has announced that it will increase its fare in that city from 7 to 10 cents, effective on Jan. 24. The increase, according to the company's announcement, is made because returns under the 7-cent fare have not taken care of the operating expenses. The new rate is established under authority of a decree of the United States District Court. The 10-cent rate will apply to all trips on city lines and so far west on Main Street at Voellinger Station. The proposed increased fare was attacked recently by members of the Belleville City Council.

New Wage Scale in Effect.—Two hundred employees of the Illinois Traction System operating the line that connects Joliet, Princeton, Ottawa and Streator have accepted a new wage scale providing for an hourly pay ranging from 52 to 63½ cents, effective until Nov. 30, 1926. The former scale ranged from 49 to 60 cents. A wage settlement applying to the main line of the Illinois Traction was referred to in the ELECTRIC RAILWAY JOURNAL, issue of Jan. 2, 1926, page 45.

Certificate for Line Between St. Louis and Kansas City Refused.—Refused a certificate of convenience and necessity for the construction of an electric railroad between St. Louis and Kansas City, Mo., the St. Louis & Kansas City Short Line Railroad has appealed to the Cole County Circuit Court from the ruling of the Public Service Commission. The commission denied the certificate largely on the grounds that the company had not made a showing sufficiently conclusive of financial ability to carry out the construction plans.

Files Higher Fare Application.—The New York State Railways has applied to the State Public Service Commission for permission to increase fares on its bus and trolley lines in Utica and Syracuse from 7 to 10 cents. Ten tickets

would be sold for 75 cents under the proposed fare provision. The likelihood of the company's filing such an application was mentioned in the ELECTRIC RAILWAY JOURNAL, issue of Jan. 16, 1926, page 126. In its petition the company maintains that the valuation placed by the commission in previous rate cases on the Syracuse and Utica lines is too low. It also states that upon the commission's valuations, plus net additions, the railway lines have failed by a considerable amount to yield a fair return.

Foreign News

Norwegian City to Have Underground Railway.—Oslo, the capital of Norway, is going to construct an underground railway to extend from Majorstuen, a station on the Holmenkollen Railway in the suburbs of Oslo, to the center of the city. The tunnel, which it is expected will be completed within 2½ years, will carry the trains of the four lines handling the heaviest traffic from the surrounding districts to Oslo. Besides resulting in a great saving of time, the proposed tunnel will be of considerable relief in solving the traffic problems of Oslo.

Weekly Tickets on London Railway.—Weekly season tickets have been introduced by the London Electric Railway, London, England, on the Baker Street and Waterloo line. If this scheme proves popular, it will be extended further. Monthly and quarterly season tickets are already in effect.

Railless Development in England.—Trackless trolleys are being adopted in England in place of worn-out tramways on certain routes where traffic is not very heavy. The Nottingham Tramways Committee has decided to substitute the railless system for tramways on a route 2½ miles long. The Town Council is authorized to run trackless cars up to a weight of 10 tons. This will allow the use of double-deck vehicles seating 56 passengers. Ipswich Town Council, which recently decided to convert all the tramways in the borough to the trackless system, has ordered 30 trolley buses at a cost of more than £41,000.

English Railway Extensions.—Liverpool City Council has confirmed a proposal to borrow £87,000 for the construction of additional tramways. Manchester City Council is about to proceed with an extension of tramway routes which will cost approximately £75,000.

Railway in Uruguay Plans to Electrify. — Partial electrification of the Northern Railway from Montevideo to Santiago Vazquez, Uruguay, a distance of 19.5 km., is now under consideration by the management of the state railways and street cars in Uruguay. La Transatlantica, a German street car system of Montevideo, and the railway management are negotiating an arrangement whereby the street car company will operate over the tracks of the Northern Railway instead of building a new and competitive line.

Recent Bus Developments

Co-ordination Plans of the New Haven

Edward G. Buckland, vice-president of the New York, New Haven & Hartford Railroad, which controls the Connecticut Company, operating electric railways and buses in Connecticut, has announced that the corporation will soon issue interchangeable tickets, good for transportation on its steam railroad, its bus lines or, if passengers desire it, on the electric railway system, and that a change in the railroad's schedule is being worked out so that train and bus service might be co-ordinated.

A statement made also announced fourteen bus line routes to be operated as auxiliaries of the steam line in Connecticut, Rhode Island and Massachusetts. Mr. Buckland said that the prices of bus line tickets would be the same as for trains. Mr. Buckland said:

> If a traveler should purchase a ticket in New York for New Haven or any other town on the main line he is entitled to be transported to his destination as rapidly as he wishes to go either by rail or by omnibus, and at the same rate of fare. The books of the New Haven system show that, in some cases, our branch line rail service costs us $1.25 per mile, while our revenue on the same line is only 35 cents a mile.
>
> The institution of buses may not increase our gross revenue because our rates of fare will be the same as before, but it will cut down our expenses and will greatly increase our net income. The adoption of the bus system by the New Haven Railroad will provide better service than has been recently possible by train without increase of cost.

The fourteen lines on which buses will be operated were announced as follows:

Danbury and South Norwalk, Hartford and Suffield, Willimantic and Woonsocket, Willimantic and North Grosvenordale, New Haven to Hartford, Hartford to Broadbrook, Willimantic to Norwich, New London to Norwich, Fall River to Taunton, Fitchburg to Worcester, Providence to Plainville, Providence to Bristol, R. I., Providence to Worcester and Canton Junction to Stoughton, Mass.

On the date that the bus service goes into effect, it was said, extensive revisions of the New Haven's train schedule will be announced.

Bus Lines to Carry Passengers Into Center of Baltimore

Acting in the case of William E. Conway, who operates a passenger bus line from Emmittsburg, Md., to Baltimore, the Maryland Public Service Commission has granted permission for the transportation of passengers to the center of the city. The order was passed upon the application of Mr. Conway. Heretofore the line has been required to discharge passengers at Reisterstown, where they boarded cars of the United Railways & Electric Company for the trip to Baltimore.

It is explained that each case in which the right is sought to run into Baltimore will be decided upon its merits and that the action on the Conway application does not mean that any line now discharging passengers outside the city where they connect with the street cars will be permitted to continue into the center of the city without the permission of the commission. So far the Conway case is the only one in which action of this kind has been taken. The lines operating to Washington and some other larger places have been permitted to carry their passengers into the center of the city ever since they were started.

The order handed down in the Conway case contains a clause which prohibits the line from transporting passengers between Baltimore and Reisterstown or intermediate points, as this territory is served by the railway. Passengers originating beyond Reisterstown, however, will be conveyed into the center of Baltimore.

Bus Service a Boon to Philadelphia Waterfront

Another important step has been taken by the Philadelphia Rapid Transit Company, Philadelphia, Pa., in its program of co-operation with the various interests of the community which it serves by establishing the Delaware Avenue bus route Q. Transportation has been made available to the workers along the waterfront district of Philadelphia. The route begins at Delaware and Oregon Avenues and operates along Delaware Avenue to Dyott Street, to Norris Street, to Richmond Street, to Delaware Avenue and thus returns to its point of origin.

Route Q will furnish service to maritime establishments as far south as Oregon Avenue, where the Philadelphia tidewater terminal docks are located, and as far north as Cramp's shipyards. The rapid growth of the dock district in Philadelphia, bringing this city to the fore as one of the principal ports of the United States, created a demand for speedier transportation between piers. Within the past two years two groups of piers have been constructed by the city—one the Southwark group, costing $3,000,000, and the other the Moyamensing group at McKean Street, costing $9,000,000.

Prior to the operation of this new bus route, there was no direct passenger transportation between piers. It was not desirable, nor was it practicable, to establish trolley service on Delaware Avenue. Traffic congestion made bus operation the only practical solution to the problem. Standard 33-passenger single-deck gas-electric motor buses are being used. The fare is 10 cents with 3-cent exchanges to all connecting car lines. In addition, the exchange privilege is extended to and from the elevated line at South Street station to the Oregon Avenue trackless trolley line.

The new service is appreciated by shipping officials. This is indicated by favorable comment received by the rail-

way from many representative men, among them B. Hoff Knight of the Philadelphia Ocean Traffic Bureau and George F. Sproule, director of wharves and shipping. Mr. Sproule said:

The establishment by the P.R.T. of a bus service along Delaware Avenue will be a great boon to the port of Philadelphia. When the city undertook its program of building up the lowest section of the waterfront by the construction of huge water terminals there was much opposition, as it was generally felt that the inaccessibility of this locality and the difficulties to be encountered in getting labor would render such improvement useless. The bus service on Delaware Avenue has solved this problem.

Competition Brings Lower Fares in St. Louis

Commuters between St. Charles and Wellston, Mo., are enjoying the benefits of reduced fares which are the result of keen competition between the United Railways and the Creve Cœur Drayage & Motor Bus Company operating between the towns into St. Louis.

Last May the bus company started several buses on the St. Charles Rock Road between Wellston and St. Charles, charging 60 cents for the round trip. The United Railways shortly after this cut the street car fare to 50 cents for the round trip to persons who did not buy commutation books. In August the railway installed a fleet of buses to be run on express service between Wellston and St. Charles for a round-trip fare of 70 cents. This service saved time over that of the competing buses. On Dec. 10 the railway put into effect a holiday fare of 42 cents for the round trip. The bus company promptly met this cut rate by reducing its own charges to 40 cents for the round trip and those rates are now in effect. The United Railways has since announced that the holiday rate will be continued indefinitely.

New Service Started.—The Seattle Municipal Railway, Seattle, Wash., started on Christmas Day, 1925, a municipal bus service on Empire Way on a 30-minute schedule.

Buses to Expedite Service.—The Connecticut Company has petitioned the Public Utilities Commission for authority to abandon its Oak Street line in Bridgeport from North Avenue to James Street. A bus line will be operated to supply the needed service and in rush hours a trolley will be used for part of the trip as well as the regular buses.

Would Enlarge Bus Service.—The Lordship Railway, which holds a franchise to operate a trolley line from Hard's Corner, Stratford, Conn., to Lordship Park in Bridgeport, has petitioned the Public Utilities Commission for authority to operate buses over Garfield Avenue to South Main Street at Birdseye Street. This line would provide transportation for the people between the Avon section of Stratford and Bridgeport. If the authority is granted the company will start buses on a schedule allowing a one-hour headway. Some time ago the Lordship company abandoned the trolley line between Hollister Street at Stratford Avenue and Lordship and substituted buses. The new territory over which the company would operate another bus line is included in the franchise given the company years ago.

Would Operate Bus With Railway.—The Key System Transit Company has applied to the Railroad Commission for permission to operate a bus service in connection with its Leona Heights car line between the end of that car line at the intersection of Calaveras and Woodland Avenues in the city of Oakland, Cal., to Anderson Street. It is proposed to charge a fare of 7 cents per passenger with transfer privileges.

Buses in Walla Walla.—Operation of railway cars in Walla Walla, Wash., by the Walla Walla Valley Railway has been eliminated entirely. On Jan. 1, three buses owned by the Walla Walla Transit Company started on schedules covering the larger portion of the city, heretofore served by the railway. All street car tracks, except the interurban line, which runs to Milton, Ore., will be removed in the immediate future.

Bus Service in New Jersey Increased.—Application was made recently by the Public Service Railway to operate a crosstown bus line on High Street, Newark, N. J. The proposed route would connect radial trolley lines serving the northwestern and southwestern sections of the city. No public transportation facilities have ever existed on High Street, which is four blocks west of the principal railway lines and two blocks west of another railway route. It is proposed to operate four buses.

Wants to Operate Between East St. Louis and Alton.—The Alton, Granite & St. Louis Traction Company on Jan. 4 applied to the Illinois Commerce Commission for a certificate of convenience and necessity to operate a bus line from East St. Louis to Alton, Ill., via National City, Brooklyn, Venice, Madison, Granite City, Nameoki, Mitchell, Hartford, Woodriver and East Alton.

Garage Service in Akron Popular.—Success is attending the operation by the Northern Ohio Traction & Light Company of a garage in connection with its terminal station at Akron, Ohio. Here automobiles are checked for 25 cents by persons who wish to continue their journey by interurban to Cleveland, Canton or other cities in which the company operates. A uniformed attendant checks the car, removes the baggage and brings the car to the patron upon his return to the terminal. During last year the company added 59 buses to its equipment and now operates a total of 164 buses.

Service Extended in Springfield.—A. D. Mackie, general manager of the Illinois Power Company, Springfield, Ill., has announced extension of the Springfield bus lines to include another route. This service will be designated as the North Third Street and Sangamon Avenue line. It will be the fifth bus route since the city granted the traction company the privilege of utilizing buses in city transportation.

Buses Will Supplant Part of Line.—The franchise covering part of its feeder lines expires March 1, but this will not be renewed by the Colorado Springs & Interurban Railway, Colorado Springs, Col. Buses will supplant that part of the street car system which is to be abolished. The rights for the main tramway line through the downtown part of the city has many years to run. That part of the system will undergo no changes. The part to be abandoned takes in Nob Hill, a residential, educational and hospital section. The situation in Colorado Springs was the subject of a three-page article in the ELECTRIC RAILWAY JOURNAL for June 6, 1925, page 885.

Buses in Hourly Service.—Operation of a bus line between Olean, N. Y., and Bradford, Pa., by the Olean, Bradford & Salamanca Bus Lines, Inc., a subsidiary of the Olean, Bradford & Salamanca Railway, opened on Jan. 7. Two 22-passenger Fageol coaches have been purchased. Hourly service between the two cities is maintained from 8 a.m. to 5 p.m. This company operates buses between Kane and Smethport, Pa. It contemplates supplanting its trolley service between Olean and the village of Bolivar with a bus route.

Additional Service in Aurora.—The Chicago & Joliet Transportation Company, subsidiary of the Chicago & Joliet Electric Railway, has been granted permission to operate two new bus lines in Aurora, Ill. The routes will be arranged to provide for peak service.

New Route Started.—The Blue Goose Bus Line, subsidiary of the East St. Louis & Suburban Railway, running between St. Louis, Mo., and Belleville, Ill., began using on Jan. 1 the Eads Bridge instead of the Municipal Bridge to enter St. Louis. The bus fare between the two cities at the same time was increased to 45 cents for the first zone, 40 cents for the second zone and 35 cents for the third, a raise of 10 cents, but transfers to all the Belleville Street cars will be furnished at the new rates.

Would Run Bus Instead of Trolley.—The Ontario Motor Lines, subsidiary of the New York State Railways, has applied to the Council of Canandaigua, N. Y., for the right to operate a bus line in the city in place of the present street car service. The company proposes to serve a wider territory by the buses than is now taken in by the single trolley line.

Bus Growth in 1925.—The St. Louis Bus Company, subsidiary of the United Railways, St. Louis, Mo., during 1925 carried 2,607,115 passengers on buses which traveled 814,807 bus-miles. At the beginning of the year the company was operating only four buses on a single line, the Natural Bridge Avenue route feeding into the Union Boulevard and Natural Bridge divisions of the United Railways. On Dec. 31, 1925, the company had six lines and was using 35 buses of the 29-passenger single-deck pay-as-you-enter street car type. During December, the largest month for the company, its buses carried 316,269 passengers and traveled 96,633 bus-miles.

New Routes Authorized.—The Boston Elevated Railway, Boston, Mass., has been authorized by the Public Utilities Commission to operate three auto bus routes as follows: A route from Copley Square to South Station, which was planned to avoid congestion, a second route from Andrew Square to Old Colony Avenue and a third from the Boylston and Ipswich Street loop extension to connect with the present Fenway-Bowdoin Square bus line.

Financial and Corporate

$5,000,000 Increase in Capital in Philadelphia Approved

The City Council of Philadelphia, Pa., on Jan. 14 approved by a vote of 16 to 4 an increase of $5,000,000 in the capital stock of the Philadelphia Rapid Transit Company. Of this amount $3,000,000 will be expended in the purchase of the Yellow Cab Company, and the remaining $2,000,000 will be spent for garages and other additions to the service.

A supplementary ordinance also was passed on Jan. 14 providing for the merging of taxicab income with the earnings from other units of the P. R. T. system in order that the city may share in the surplus, as provided in the city-company agreement of 1907, and to allow a common basis for rate fixing.

The option of the P. R. T. on the taxicabs has been extended and it is not known just when the purchase will be consummated.

Earnings at Rochester Slightly Behind

The report of Charles R. Barnes, commissioner of railways at Rochester, N. Y., for the quarter ended Oct. 31 shows that the New York State Railways, Rochester lines, failed by $41,544 to meet the return guaranteed under the service-at-cost contract. The deficit from railway operations was $34,265 and from buses $7,279. The total revenue from all railway operations for the three months was $1,189,883, with total operating expenses of $841,290. Trolleys carried a total of 22,962,024, including transfers, during the period; trackless trolleys transported 376,631 and buses 57,922, a grand total of 23,387,577 passengers. The results are tabulated in the accompanying summary.

Small Loss in Oklahoma City—Buses Do Well

Financial statement of the Oklahoma Railway, Oklahoma City, Okla., now in the hands of the receivers, is expected to show a deficit of $20,000 for the year 1925. The year started off well, but there was a marked decrease in receipts during the summer months. September showed an increase, which continued through the months of October and November. Stockholders of the company have hopes for a brighter year in 1926. Bus operation, utilized to supplement railway service in Oklahoma City, has proved profitable. The company now has three bus lines in Oklahoma City, all of them doing a good business. Three new Reo buses were delivered to the company last week and immediately put in service on arrival, though without the customary several coats of paint. There was an immediate demand for these buses and the company could not wait for them to be painted at the factory. They will be painted in the shops of the company here. There will be further expansion in the bus lines of the company in the near future, but no definite plans have yet been announced by the receivers. The annual meeting is set for Jan. 26.

Decision Setting Aside Rates Regarded Important

In a federal court decision handed down at Madison, Wis., by Judge Claude S. Luce the Oconto City Water Company won its fight to set aside rates fixed by the Railroad Commission, which were considered so low as to be confiscatory. The decision is the outgrowth of an appeal. It grants the water company a rate higher than the one fixed by the commission. A point in the decision regarded of far-reaching significance is the fact that the views expressed would seem to cast doubt on the validity of the theory on which the Wisconsin commission has valued public utility property in the state. The federal ruling has been interpreted to indicate the need for rates based on present reproduction costs rather than average prices taken over a period of years, which basis the commission follows.

Aurora, Elgin & Fox River Included in Western United

A syndicate headed by E. H. Rollins & Sons, with Blair & Company, Inc., Harris, Forbes & Company, Halsey, Stuart & Company, Inc., Marshall Field, Glore, Ward & Company, Spencer Trask & Company, the Illinois Merchants Trust Company and the First Trust & Savings Bank, Chicago, offers a new issue of $22,500,000 Western United Gas & Electric Company first mortgage 5½ per cent bonds, due Dec. 1, 1955, at 99 and interest, to yield about 5.55 per cent. The bonds are issued as a result of the consolidation of numerous properties, the securities of which are to be retired, and the new issue will be a first mortgage on all the properties.

The bonds will be secured by direct

OPERATING RESULTS IN ROCHESTER FROM AUG. 1, 1925, TO OCT. 31, 1925, INCLUSIVE

		Cents per Car-Mile	Dollars per Car-Hour
Railways: Miles of road operated	78.81		
Car-miles	2,402,298		
Car-hours	275,332		
Revenues from railway transportation:			
Passenger revenues	$1,164,325		
Chartered car revenues	707		
Mail revenues	17		
Miscellaneous transportation revenues	467		
Total revenue from railway transportation	$1,165,518	48.51	4.23
Revenues from railway transportation:			
Station and car privileges	$13,160		
Rent from tracks and facilities	7,471		
Rent from buildings and other property	3,734		
Total revenue from other railway operations	$24,365	1.02	.09
Total revenue from all railway operations	$1,189,883	49.53	4.32
Railway operating expenses:			
Maintenance of way and structures	$120,089	5.00	.44
Maintenance of equipment	85,742	3.57	.31
Power	62,835	2.62	.23
Conducting transportation	412,776	17.18	1.50
Traffic expenses	3,096	.13	.01
General and miscellaneous expenses	111,749	4.65	.40
Renewals and depreciation	45,000	1.87	.16
Total railway operating expenses	$841,290	35.02	3.05
Net revenue from railway operations	$348,593	14.51	1.27
Auxiliary operations:			
Revenues	$907	.04	.00
Expenses	1,188	.05	.00
Auxiliary operating deficit	$280	.01	.00
Net railway and auxiliary operating revenue	$348,312	14.50	1.27
Taxes assignable to railway operations	90,754	3.78	.33
Railway operating income	9	.00	.00
Non-operating income	9	.00	.00
Railway gross income	$257,567	10.72	.94
Bus lines operating deficit	5,012		
Service-at-cost gross income	$252,555		
Return on investment, railway property	$291,832	12.15	1.06
Return on investment, bus lines	2,267		
Total return on investment	$294,100		
Service-at-cost operating deficit	$41,544		

SUMMARY OF OPERATION OF CO-ORDINATED BUS LINES, UNDER SERVICE-AT-COST CONTRACT AUG. 1, 1925, TO OCT. 31, 1925, INCLUSIVE

	Gasoline Buses	Trackless Trolley Buses
Bus-miles	20,636	55,645
Bus-hours	2,325	7,647

	Gasoline Buses			Tr'kl's Trolley Buses		
Operating revenues:		Cents per Mile	Dollars per Hour		Cents per Mile	Dollars per Hour
Passenger revenues	$3,011	14.59	1.28	$12,731	22.28	1.67
Operating expenses:						
Maintenance of way and structures	1	.01	.00	910	1.64	.12
Maintenance of buses	2,606	12.63	1.11	4,040	7.26	.53
Gasoline and power	714	3.46	.30	1,290	2.32	.17
Conducting transportation	2,572	12.47	1.09	5,561	10.18	.74
General and miscellaneous	737	3.57	.32	1,972	3.55	.26
Total operating expenses	6,532	32.14	2.82	13,875	24.95	1.82
Net operating deficit	3,621	17.55	1.54	1,144	2.07	.15
Taxes	94	.45	.04	152	.28	.02
Total operating deficit	3,715	18.00	1.58	1,296	2.35	.17
Return on investment	380	1.85	.16	1,887	3.39	.25
Deficit applicable to service-at-cost	4,095	19.85	1.74	3,183	5.74	.42
Operating deficit; both lines	5,012					
Return on investment	2,267					
Bus lines deficit applicable to service-at-cost	7,297					

first mortgage on all properties owned by the company in fee, and by pledge and deposit of all of the capital stock and funded debt of the Coal Products Manufacturing Company and of the Aurora, Elgin & Fox River Electric Company, which owns the electric railway properties. The company serves a rapidly developing territory west of and contiguous to Chicago and the reproduction cost of the mortgaged property is estimated at $40,000,000.

Fitkin Interests Get Shannahan-Peck Property

Acquisition by Fitkin Utilities, Inc., of the Newport News & Hampton Railway, Gas & Electric Company of Virginia, of which J. N. Shannahan is president, was announced on Jan. 20. The Fitkin interests have acquired 80 per cent of the preferred and common stocks of the Newport News property at a price understood to have been $110 a share. The property will be combined with the Virginia-Western Power Company, Virginia-Northern Power Company and other Virginia holdings in a subsidiary of the National Public Service Corporation, the Fitkin utility holding company.

Efforts made to locate Mr. Shannahan so as to get a statement from him were unavailing, but at the office of Fitkin & Company it was said that as the deal had only just been concluded the question of any possible change in personnel had not even been considered, but that Mr. Shannahan would undoubtedly continue as a director, if not an officer, under Fitkin control.

Successor Company in Danbury Seeks Approval of Plans

The Danbury & Bethel Traction Company, Danbury, Conn., will succeed the Danbury & Bethel Street Railway under reorganization. A request has been filed with the Public Utilities Commission for approval of the reorganization plans. The Danbury & Bethel Traction Company plans to reconstruct the lines with the proceeds of a new bond issue. At the hearing on Jan. 5 the commission was asked to approve $500,000 of first mortgage gold bonds and $300,000 of 6 per cent preferred stock and an issue of 3,000 shares of common of no par value.

More P.R.T. Stock for Car Riders

If any one in Philadelphia was unaware on the evening of Thursday, Jan. 21, that the Philadelphia Rapid Transit Company had that day undertaken another large drive for the sale of preferred stock to car riders, it certainly came about through no lack of publicity effort on the part of the company. Every car and bus in service was placarded inside and out with investment slogans, the newspapers were accorded full-page advertisements on the subject and thousands of "Read-as-You-Ride" *Service Talks* were distributed by mail and by employees' committees telling of this additional issue of stock.

Reports from the various sales headquarters indicate that the present issue will be floated in even more rapid fashion than that made in February, when $3,000,000 was oversubscribed in six days.

Stockholders of the company voted unanimously on Jan. 20 to approve the issue of an additional $15,000,000 of preferred stock, carrying dividends of 7 per cent. It is understood, however, that only a portion of this will be sold at the present time. An additional block may later be offered to finance the purchase of the taxis by the P.R.T., according to a report appearing in the Philadelphia *Record*. No more than twenty shares of stock may be subscribed by any individual and any subscription may either be paid for outright or on a plan of deferred payments, $1 per share per week being payable to any conductor or subway-elevated cashier.

As stated in *Service Talks*, the funds resulting from the present issue will be used in carrying out several comprehensive extension programs. They are:

Making ordinary extensions and improvements to the transit system.

Building track extensions to serve the Sesqui-Centennial Exposition and encourage the building of homes in South Philadelphia.

Building and improving motor bus garages, carhouses and power stations.

Purchasing and rehabilitating the Frankford, Tacony & Holmesburg Railway.

Retiring certain senior securities.

Replacing in P. R. T. treasury moneys temporarily taken from P. R. T. reserves for improvements and extensions.

The present issue is also open to subscription by employees of the company on the same deferred payment plan, with the exception that the payments will be deducted by the company from the weekly pay envelopes. No interest is to be charged to subscribers making use of the deferred plan, so that the shares cost them no more than would be the case under a plan of outright purchase.

Dayton-Union City Line Out of Existence

After service of 25 years, the Dayton-Union City branch of the Indiana, Columbus & Eastern Traction Company lines passed out of existence on Dec. 31, authority having been granted by the Ohio Utilities Commission to abolish the division. Company officials said it had not been paying for several months. As was mentioned in the ELECTRIC RAILWAY JOURNAL, issue of Dec. 19, 1925, page 1091, bus substitution is planned.

The line was organized in 1901 by Dr. J. E. Lowes, Joseph Feight and H. J. Kiefaber, all of Dayton, to operate between Dayton and Greenville. It was the first interurban in Ohio to operate over its own right-of-way, and also the first to introduce regular freight service. In 1904 the line was extended to Union City and a year later through to Muncie, Ind. A few years ago it became a part of the former Ohio Electric Railway. The line was 55 miles long. Much of the real estate of the right-of-way reverts to the original owners.

Surplus in December in Toledo

A surplus of $2,290 was earned in December, 1925, by the Community Traction Company, Toledo, after providing for all expenses, funds and dividends. This is the first surplus since March, 1925. Gross revenue was $328,993, compared with $340,761 for the similar month last year. The lines carried 4,417,488 revenue passengers, compared with 4,491,372 for December, 1924. There was an increase in car mileage operated. Operating expenses were $227,697, a ratio of 69.21 per cent of total revenue.

The total deficit for 1925 was $108,211. This is offset by a corresponding decrease in rent of tracks and terminals. Maintenance funds were decreased from $770,000 in 1924 to $680,000 in 1925. Expenditures, however, increased. Oper-

Conspectus of Indexes for January 1926

Compiled for Publication in this Paper by

Albert S. Richey
Electric Railway Engineer
Worcester, Mass.

	Latest	Month Ago	Year Ago	Since War High	Since War Low
Street Railway Fares* 1913 = 4.84	Jan. 1926 **7.32**	Dec. 1925 **7.30**	Jan. 1925 **7.25**	Jan. 1926 **7.32**	May 1923 **6.88**
Electric Railway Materials* 1913 = 100	Jan. 1926 **154.3**	Dec. 1925 **153.9**	Jan. 1925 **150.3**	Sept. 1920 **247.5**	Oct. 1924 **148.5**
Electric Railway Wages* 1913 = 100	Jan. 1926 **223.8**	Dec. 1925 **223.0**	Jan. 1925 **221.0**	Sept. 1920 **232.0**	May 1923 **205.8**
Am. Elec. Ry. Assn. Construction Cost (Elec. Ry.) 1913 = 100	Jan. 1926 **202.2**	Dec. 1925 **202.2**	Jan. 1925 **205.3**	July 1920 **256 4**	May 1922 **167.4**
Eng. News-Record Construction Cost (General) 1913 = 100	Jan. 1926 **207.2**	Dec. 1925 **206.0**	Jan. 1925 **210.4**	June 1920 **273.8**	Mar. 1922 **162.0**
U. S. Bur. Lab. Stat. Wholesale Commodities 1913 = 100	Dec. 1925 **156.2**	Nov. 1925 **157.7**	Dec. 1924 **157.0**	May 1920 **246.7**	Jan. 1922 **138.3**

	Latest	Month Ago	Year Ago	Since War High	Since War Low
Bradstreet Wholesale Commodities 1913 = 9.21	Jan. 1 1926 **14.01**	Dec. 1 1925 **14.41**	Jan. 1 1925 **13.93**	Feb. 1 1920 **20.87**	June 1 1921 **10.62**
U. S. Bur. Lab. Stat. Retail Food 1913 = 100	Dec. 1925 **165.5**	Nov. 1925 **167.1**	Dec. 1924 **151.5**	July 1920 **219.2**	Mar. 1922 **138.7**
Nat. Ind. Conf. Bd. Cost of Living 1914 = 100	Dec. 1925 **171.4**	Nov.† 1925 **171.1**	Dec. 1924 **166.1**	July 1920 **204.5**	Aug. 1922 **154.5**
Steel Unfilled Orders (Million Tons) 1913 = 5.91	Dec. 31 1925 **5.033**	Nov. 30 1925 **4.582**	Dec. 31 1924 **4.817**	July 31 1920 **11.118**	July 31 1924 **3.187**
Bank Clearings Outside N. Y. City (Billions)	Dec. 1925 **20.01**	Nov. 1925 **18.35**	Dec. 1924 **18.45**	Oct. 1925 **20.30**	Feb. 1922 **10.65**
Business Failures Number Liabilities (Millions)	Dec. 1925 **1627** **43.08**	Nov. 1925 **1462** **42.78**	Dec. 1924 **1911** **57.77**	Jan. 1924 **2231** **122.95**	Aug. 1925 **1353** **27.22**

*The three index numbers marked with an asterisk are computed by Mr. Richey, as follows: Fares index is average street railway fare in all United States cities with a population of 50,000 or over except New York City, and weighted according to population. Street Railway Materials index is relative average price of materials (including fuel) used in street railway operation and maintenance, weighted according to average use of such materials. Wages index is relative average maximum hourly wage of motormen, conductors and operators on 144 of the largest street and interurban railways operated in the United States, weighted according to the number of such men employed on these roads. †Not including fuel (171.8 with fuel).

ation for 1925 covered 6,727,174 car-miles, compared with 7,108,643 car-miles in 1924.

Power Company Takes Over Railroad's Electric Customers

The Cleveland Electric Illuminating Company, Cleveland, Ohio, a subsidiary of the North American Company, has purchased the Cleveland, Painesville & Eastern Railroad. Included in the purchase are the electric light and power properties, but not the railroad properties of the United Light & Power Company, a subsidiary of the purchased company. Announcement of the price was withheld pending approval by the Ohio Public Utilities Commission. The acquired properties serve about 7,000 consumers, whose requirements are about 14,000,000 kw.-hr. annually.

Suburban Line Would Dismantle Road.—The Chicago & Interurban Traction Company, Chicago, Ill., has filed a petition with the Illinois Commerce Commission for permission to dismantle this 50-mile electric railway between Chicago and Kankakee.

Warrant Basis in Seattle.—In order to raise money to meet a payment on March 1, 1926, on the $15,000,000 bond issue for the purchase of the Seattle Municipal Railway system, Seattle, Wash., from the Puget Sound Power & Light Company, the railway department has gone on a warrant basis. The department must have the March payment, $833,000, which will be the fifth of the issue, ready by Feb. 1, 1926, and it must be in the hands of the city's fiscal agency in New York by Feb. 16. A total of $3,322,000 has been paid on the $15,000,000 debt so far.

Court Names New Receiver. — The resignations of W. H. Sawyer and Fred E. Allen as receivers for the Alton, Granite & St. Louis Traction Company have been accepted by Federal Judge English in East St. Louis, Ill. Both had served as receivers for the company since Dec. 20, 1921. Pressure of other business was responsible for their resignations. Mr. Sawyer, it will be recalled, is planning to go to Australia on a mission for the Australian government. Following the acceptance by Judge English, he appointed T. W. Gregory, secretary-treasurer of the East St. Louis & Suburban Railway, receiver for the Alton, Granite & St. Louis Traction Company.

Injunction Against Sale of Suburban Road.—The sale of the old Frankford, Tacony & Holmesburg Street Railway to the Philadelphia Rapid Transit Company, Philadelphia, Pa., has been enjoined by Common Pleas Court No. 2. President Judge Horace Stern handed down an opinion in the injunction suit brought by minority bondholders of the Frankford, Tacony & Holmesburg against the bondholders' protective committee, which bought in the property and franchise of the old road at the receiver's sale, and then formed the Northeastern Philadelphia Transit Company. The decision of the court is intended to restrain it from reselling the franchise and property to Edward J. Ryan, as agent of the Philadelphia Rapid Transit Company. The franchises and property of the old Holmesburg road were bought in by the bondholders' protective committee for $350,000, and it proposed to sell the same to the P. R. T. interests for $300,000. The complainants alleged this sum was inadequate. Furthermore, they disputed the authority of the committee to consummate the sale of the property under the terms proposed.

December Surplus in Philadelphia $133,658.—The operating revenue of the Philadelphia Rapid Transit System, Philadelphia, Pa., for the month of December was $4,608,309, with "operation and taxes" $3,500,409. The surplus for the month amounted to $133,658. There was a total passenger revenue of $4,545,577, of which $4,402,197 was from surface, subway and elevated and $143,380 derived from bus passengers. The number of passengers carried totaled 83,416,897. Of this number 81,862,870 traveled on the surface lines, subway and "L" and 1,554,027 passengers were carried by the bus lines.

Applies to Issue Bonds.—The Key System Transit Company, Oakland, Cal., has applied to the Railroad Commission for authority to issue and sell $2,500,000 of first mortgage 5½ per cent gold bonds, series C, and to use the proceeds derived from the sale to finance capital expenditures.

Temporary Discontinuance Allowed.—Permission was granted by the Public Service Commission on Jan. 15 to the New York State Railways, Utica lines, to discontinue trolley service on the James-Oneida and the Auburn Avenue shuttle lines until July 1, 1926, at which time the company will be required to restore the service or else proceed under the law to abandon the lines. The company started buses last October as an experiment along Oneida Street serving a considerable portion of the territory formerly supplied by the two shuttle lines. The bus service is so well patronized that the company will increase it as soon as additional buses, which have already been ordered, can be delivered.

Book Review

Super-Power—Its Genesis and Future

By W. S. Murray. Published by McGraw-Hill Book Company, New York, N. Y. 1925. 237 pages. Price $3.

Perhaps the contribution in this book of greatest interest to ELECTRIC RAILWAY JOURNAL readers is the suggestion by W. S. Murray that the mercury-arc rectifier may be the golden key that will unlock the dissensions of the past and make possible the long-looked-for expansion of heavy traction electrification.

Mr. Murray regards the tremendous growth of the 60-cycle power systems in the country as an important factor in the decision of the type of system to be used today. The author is careful to suggest the "consideration" of the rectifier in future systems, but does not recommend its "use" because at the present moment the rectifier is new in this country and has not yet been subjected to the test of time.

Not 5 per cent difference in annual costs exists among the modern types of systems recently installed. This statement is sustained by the author by the analysis outlined in the long chapter on railroad electrification.

The question "Why has there not been more electrification?" is answered thus by the author:

1. The credit of the steam railroads has been limited for many years.

2. There has been a certain amount of prejudice against electrification on the part of railroad managements long trained in the art of steam operation.

3. The large electrical manufacturers of the country have themselves been unable to agree on any one system.

The author says he shares in the blame for the never-ended battle of the systems.

The book starts off with a chapter on power, in which the author shows the relative effect of power in the development of the extensive industrial life of the United States. It is stated that 3 hp. is the average amount of mechanical power back of every industrial worker in the United States. This is twice as much power as is available for industrial workers in any other country.

Following the discussion of power, Mr. Murray devotes a chapter to the birth of electric utilities and two chapters to the ownership of utilities. These are replete with excerpts from reports from foreign countries and other data that contribute a distinct note to the material available on the relative merits of government versus private ownership.

Formation of the super-power survey, started in 1918, is well set forth. With the aid of E. G. Buckland, vice-president of the New York, New Haven & Hartford Railroad; Franklin K. Lane, Secretary of the Interior, and Dr. George Otis Smith, director of the U. S. Geological Survey, Congress on July 1, 1920, finally authorized the survey to be made. The report was finished within the allotted time of one year, and without over-running the appropriation of $125,000 made to complete the study.

Under the entrancing title Super-Power, Mr. Murray has succeeded in creating a word picture of electric power with its great possibilities that should interest the thousands of people who in their daily life have contact with the generation or use of electricity. In fact, the author has dealt with a truly large subject in a masterly way. Ideas expressed by him in the survey may not meet with the entire approval of the industry, but his portrayal of the future is an inspiration. The volume is concluded with the remark used many times before by the author, apropos of the World War: "We have spent millions for destruction, for preservation; now let us spend millions for construction, for conservation."

Personal Items

A. W. McLimont President

Former Vice-President and General Manager Heads the Winnipeg Electric Company

A. W. McLimont was elected president of the Winnipeg Electric Company, Winnipeg, Man., and its subsidiaries on Jan. 4. He succeeds G. W. Allan as president. W. R. Bawlf, president of the N. Bawlf Grain Company, Winnipeg, was elected vice-president to succeed Mr. McLimont in that office.

By virtue of his extended experience in the public utility field, both in North and South America, and his active connection with the affairs of the Winnipeg Electric during the past eight years, Mr. McLimont is well qualified for his new position. He belongs to

A. W. McLimont

that school of public utility operators which recognizes an equal partnership and responsibility among the public, the public utility company and the utility's employees. The interests of all, he holds, are interdependent and must be mutually recognized if any measure of success is to be obtained.

One of his outstanding personal characteristics as a public utility operator is his deep and unshaken faith in the "fairness of the public." He has always believed that any public utility should lay all its cards on the table, take the public into its confidence and give it the facts concerning that utility's problems as they arise. Mr. McLimont has developed this policy, and as a result the public of Winnipeg is better informed about its street railway and the problems confronting it than is the public in most other cities.

The inherent spirit of "square dealing and fair play" in the man has marked his relations with his employees, with whom he has dealt on a broad basis and with sympathetic understanding.

While adhering to his determination to give the public a full measure of service for the price it pays, he has exercised close personal control of the company's operations and has made the Winnipeg street railway one of the most efficiently operated systems in Canada and the United States.

By his new appointment, patrons of the various services rendered by the Winnipeg Electric Company, which operates the local electric railway, are assured of a continuance of that policy which has been in evidence for some time now—a policy designed to give "the best possible service at the lowest possible cost," in the attainment of which the interests of the public, employees, and company are developed in an atmosphere of mutual good will.

Born in Quebec City, Mr. McLimont got his first glimpse of Winnipeg in 1885, when he came West as a member of the expeditionary forces raised at the time of the rebellion. From that time on his life has been spent in public utility work in all its phases. Among the important executive positions he has held might be mentioned—general manager of the Dubuque Light & Traction Company, Dubuque, Iowa; transportation engineer of the Public Service Commission for the First District of New York, vice-president of the Chicago & Milwaukee Electric Railway, vice-president and general manager of the Michigan United Railways, vice-president and general manager of San Francisco-Oakland Terminal Railways, now the Key System Transit Company; and vice-president and general manager of the Georgia Power Company.

W. H. Carter, president of the Carter-Halls-Aldinger Company, Ltd., Winnipeg; N. J. Breen, Western general manager of the Lake of the Woods Milling Company, Winnipeg, and James B. Woodyatt, president of the Southern Canada Power Company, Montreal, have been elected directors of the Winnipeg Electric Company.

C. J. Bell Chairman and F. W. Doolittle Director

Charles J. Bell, president of the American Security & Trust Company, Washington, D. C., and for years a member of the board of directors of the Washington Railway & Electric Company, has been elected chairman of the latter body to succeed the late Milton E. Ailes.

Emory L. Coblentz declined re-election to the board and F. W. Doolittle, vice-president of the North American Company, was named in his stead.

Messrs. Pearson and Buckland on Connecticut Company Personnel

At a meeting of the directors of the Connecticut Company, New Haven, Conn., on Jan. 12, E. J. Pearson of the New York, New Haven & Hartford Railroad was made chairman of the board of directors and E. G. Buckland was made vice-chairman of the board. All other officers of the Connecticut Company remain the same—J. K. Punderford as president, W. J. Flickinger as vice-president, etc. There are no changes in personnel whatever, except in the board of directors. In addition to the election of Mr. Pearson and Mr. Buckland to the respective offices previously mentioned, each of the Connecticut members of the New Haven's board of directors was invited to become a member of the board, as were also the trustees in whose hands the Connecticut Company was placed under the federal dissolution decree of 1914, just recently modified to provide for the restoration of the Connecticut Company to the control of the New Haven Railroad.

E. S. Pardoe Bus Superintendent in Washington

E. S. Pardoe has been made superintendent of bus operation of the Capital Traction Company, Washington, D. C. He has been with that company since 1919 in the engineering department, and since 1921 has been an assistant engineer. Mr. Pardoe attended the public schools of Washington and was graduated from the Technical High

E. S. Pardoe

School. He attended the University of Pennsylvania and later George Washington University, from which he was graduated with the degree of bachelor of civil engineering in 1924.

The bus operations of the Capital Traction Company have expanded quite rapidly in the last few years. That company operates seven lines, which, with two exceptions, are feeders or extensions of existing street car lines.

S. R. Inch President of Florida Power & Light

S. R. Inch has been elected president of the Florida Power & Light Company, organized on Dec. 28, 1925, in Florida as a vehicle for the operation of the properties in that state under the supervision of the Electric Bond & Share Company. The company is controlled through ownership of all of its second preferred and common stocks by the American Power & Light Company. The Florida Power & Light Company controls the properties operating the electric railway systems in Miami and Miami Beach, Fla. Mr. Inch is well known in the railway field. He became associated with the Utah Power & Light Company as general superintendent in 1913. Before that he had

been located in Montana managing public utility properties owned by W. A. Clark. He was made operating manager at Salt Lake City in May, 1915, and less than three years later he succeeded C. E. Groesbeck as vice-president and general manager of the Utah Power & Light Company and vice-president of the Utah Light & Traction Company.

More Brooklyn City Appointments Announced

Last December C. E. Morgan, vice-president and general manager of the Brooklyn City Railroad, Brooklyn, N. Y., announced the appointment of Lester E. Curry, Hugh Savage and Hugh K. Sherman as superintendent of overhead lines, superintendent of equipment and purchasing agent respectively of that company. Mr. Morgan has now announced the following appointments:

L. J. Davis, assistant to general manager in charge of the mechanical and electrical departments.

H. F. Merker, chief engineer of way and structures. J. A. Rosenberger, acting superintendent of roadways.

V. A. F. Neillsen, superintendent of buildings.

C. A. Hammel, general storekeeper.

All five of these officials have been connected with the Brooklyn City Railroad or Brooklyn-Manhattan Transit organizations for several years. Mr. Davis and Mr. Merker will make their headquarters at the general office building, but Mr. Rosenberger and Mr. Neillsen will make their headquarters at the administration building, on Nostrand Avenue.

The way and structures department work for the B.-M. T. surface lines has been placed under the direction of Henry J. Kolb, who has been made chief engineer of way and structures for all B.-M. T. lines—surface as well as rapid transit.

C. W. Burke has been appointed assistant chief engineer of way and structure for the B.-M. T. lines.

Frederick L. Finch will continue as superintendent of surface roadway of the B.-M. T. surface lines, reporting to Mr. Kolb. Mr. Finch's headquarters will be at the new B.-M. T. surface track division office at Smith and Ninth Streets.

W. H. Wharton will continue as superintendent of buildings.

The trucking division of the B.-M. T. way and structures department, heretofore located at Nostrand Avenue, will be transferred to the 24th Street garage and the operation of motor cars will be under the direction of the surface transportation department. The maintenance of these motor cars will be cared for by the mechanical department as part of the work under the supervision of the general foreman of the Ninth Avenue inspection shop.

I. M. Burns Made Shop Superintendent in Brooklyn

I. M. Burns has been appointed to succeed the late George J. McDonough as superintendent of rapid transit inspection shops of the Brooklyn-Manhattan Transit Corporation, Brooklyn, N. Y. Mr. Burns was advanced from the position of general foreman at East New York inspection shop. He will make his headquarters at the 36th Street inspection shop.

At the East New York inspection shop, C. I. Ekerman succeeds Mr. Burns as general foreman and J. C. Heiberg has been appointed assistant general foreman.

F. N. Parsons has been appointed superintendent of the new electrical repair shop at Gravesend Avenue and Avenue X, which was placed in service on Jan. 4, 1926. E. C. Parham is foreman at the new shop. The shop force and equipment were transferred from their old quarters at the 52d Street repair shop at the first of the year and the 52d Street repair shop was taken over by the Brooklyn City Railroad.

F. C. Horner in New General Motors Post

F. C. Horner of the staff of Alfred P. Sloan, Jr., president of General Motors, has been appointed assistant to Vice-President Alfred H. Swayne, chairman of the corporation's traffic association. Mr. Horner will be in charge of the development of the commercial motor vehicle field on electric and steam roads.

Under the direction of Mr. Horner, a railroad service department was started more than two years ago by General Motors to deal with this problem in a definite manner. This department is purely a transportation engineering research organization.

It is pointed out that General Motors having acquired the Yellow Truck & Coach Manufacturing Company is in position to take every advantage of the opportunity offered and at the same time promote the scientific co-ordination of rail and road transport facilities; thus aiding in the elimination of wasteful transportation methods both within and outside large terminal areas.

F. C. Shoemaker is now master mechanic and garage superintendent of the Illinois Power & Light Corporation at the Decatur property. He succeeds Charles H. Woods, who resigned late in 1925 to become a district sales representative of the International Motor Company. Mr. Shoemaker had been in the service of the Illinois Traction system at the general shops at Decatur for 3½ years when in July, 1922, he resigned to assume the position of staff engineer of the Texas Company, railway division. Before going to the Illinois Traction System he was connected with the old Fort Wayne & Wabash Valley Traction Company and the Fort Wayne & Northern Indiana Traction Company, at Fort Wayne, Ind.

William Goldner, in the employ of the Grand Rapids Railway, Grand Rapids, Mich., for 37 years, is on a leave of absence because of ill health. He has been succeeeded by Ernest M. Lunda, appointed superintendent of equipment, as referred to in the ELECTRIC RAILWAY JOURNAL, issue of Nov. 21, 1925, page 933.

William H. Dougherty, prominent in the transportation department of the Williamsport Passenger Railways, Williamsport, Pa., has tendered his resignation. Mr. Dougherty started with the corporation in 1889 when horse-drawn cars were still in operation. He served as driver and later as conductor and motorman. He was made a dispatcher in 1900.

Walter J. Hodgkins, vice-president and general manager of the Lake Superior District Power Company, Ashland, Wis., in whose service he started at the very bottom sixteen years ago, was named vice-president and general manager of both the Michigan Gas & Electric Company and the Houghton County Gas Company at a meeting held in Chicago on Dec. 31. Mr. Hodgkins will continue to direct the activities of the Lake Superior Company at Ashland, where the general offices of the three companies will be centered. The Lake Superior District Power Company operates 17 miles of electric railway.

Obituary

F. P. Edinger

Frank P. Edinger, formerly superintendent of transportation of the Chicago Surface Lines, died on Dec. 20. He had been connected with the Chicago Railways or its subsidiaries since 1893. He began his career as a conductor and worked up through the transportation department. Later he became superintendent of one of the north side districts. In 1914 at the time of the unification of the surface lines he was transferred to the west side and placed in charge of the sixth division. Prior to his appointment as superintendent of transportation he served as acting superintendent. He next was made superintendent.

C. A. Gould

Charles Albert Gould, founder of the Gould Coupler Company and the Gould Storage Battery Company, died on Jan. 6 in New York City. Mr. Gould was a pioneer in the development of automatic car couplers, electric train lighting, vestibule passenger cars and other railroad devices. In 1869 he was an accountant in Buffalo and later served as postmaster of Buffalo and collector of customs. About ten years later he organized and became president of Gould & Stimson, which later grew into the Gould Coupler Company. He remained at the head of this organization until Jan. 1, 1925, when he disposed of his interest in the business to serve as president of the Gould Realty Company and the Gould Securities Company. He was born in Batavia, N. Y., in 1849. His hobby was horses and dogs. In his will he left $20,000 to "provide for the board and keep of all dogs and horses owned by me."

Caleb S. Jackson, formerly treasurer of the Eastern Massachusetts Street Railway, Boston, Mass., dropped dead on Jan. 2 in the subway station at Kendall Square. He was to have stood trial on three charges late in January over a shortage in his accounts of $48,000 discovered about a year ago. At that time he resigned as treasurer.

Manufactures and the Markets

News of and for Manufacturers—Market and Trade Conditions
A Department Open to Railways and Manufacturers
for Discussion of Manufacturing and Sales Matters

High Hopes for Copper in 1926

Although the manufacture of copper products at the outset of 1926 is slightly less than was the case a year ago, no concern is felt for the year's prospects by large manufacturers in the field. In fact, quite to the contrary, anticipations of a most successful period seem to be the order of the day. Orders from the electrical industry are being received in gratifying volume, although no large activity in steam railroad electrification or in track extensions among the electric railways is apparent just now. The development program within these last two fields will doubtless be considerably accelerated within the next few weeks.

The outstanding feature in the copper trade during 1925 was the enormous domestic demand, far exceeding the expectations of even the most sanguinary observers. Large deliveries in the month of December to American mills brought the stock of marketable copper to the lowest point in the history of the commodity, notwithstanding lower exports. With consumption of copper outrunning production it is scarcely to be wondered that a spirit of optimism prevails in the industry.

So far as European consumption is concerned the falling off in purchase has not been occasioned by any reduction in the need for the metal. It has simply been impossible for foreign consumers to lay their hands on the necessary funds with which to finance their buying. The general belief is that conditions in Europe are slowly but surely improving, and if this is actually the case the copper industry will probably benefit as much as any other American enterprise. Development of the tremendous domestic consumption of copper and copper products has taken place over the past four years and no evidence is at hand to show that the end is in sight.

1925 Car Equipment in New York City Totaled $9,000,000

Material additions to rolling stock in operation were made in 1925 by the railways under the jurisdiction of the New York Transit Commission, having authority in New York City. One hundred and fifty-four new steel rapid transit cars and 335 new trolley cars, bought by direction of the commission and with its approval, went into service, representing a total expenditure for these two items of about $9,000,000. Trunk line cars to the number of 130 were also placed in operation. With the additions named to the rapid transit and surface line cars, there are now approximately 13,125 cars used in operation upon local transportation lines in the city of New York. It is estimated now that the subway, elevated and surface cars required to carry New Yorkers each business day represent an approximate investment of $111,000,000. Toward the close of the year the Brooklyn-Manhattan Transit Corporation directed that bids be asked for supplying 201 articulated cars to form 67 triplex units for rapid transit use.

Big Order for Timken

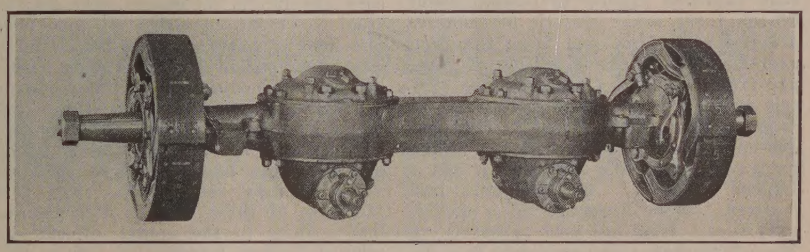
Axle Equipment for the 333 Public Service Buses in New Jersey Has Unique Features

Several departures from conventional practice characterize the axle equipment being supplied by the Timken Detroit Axle Company for the 333 gas-electric buses recently ordered by the Public Service Corporation of Newark, N. J., from the Yellow Truck & Coach Manufacturing Company. The axles are similar to those used under the 210 gas-electric buses delivered in 1925 to the Philadelphia Rapid Transit Company.

The rear axle will have the dual worm drive, known as type 6530, for the dual motor drive type of gas-electric bus. It was designed and built especially for the Yellow Truck & Coach Manufacturing Company. It is constructed for underslung springs and Hotchkiss drive. The housing, or body of the axle, differs from ordinary practice in that it is a one-piece drop forging. Because of the dual electric motor drive, two driving units are necessary and two bowls must be provided to accommodate the two driving units. The underslung spring pads and the flanges for mounting the brake mechanism are forged integral, presenting a very difficult forging problem.

Special machine equipment was provided to build this double bowl banjo type of housing. The forging is bored to provide a housing for the axle shaft and also to provide a suitable mounting for the driving unit. This design provides an exceptionally strong rear member to withstand the exacting requirements of heavy-duty motor coach service.

The front axle was also designed especially for the Yellow Truck & Coach Company. It is suitable for heavy-duty bus service and is of the inverted Elliot type with inclined steering knuckle pins. A steering knuckle pin angle of 8 deg. and a wheel camber of 1½ deg. are used so that the center line of the steering knuckle pin produced to the ground very nearly intersects the tire contact on the ground. Other features of the axle equipment are more or less similar to conventional axle practice, although specially designed for heavy-duty work and to accommodate themselves to the various new departures mentioned.



Special Type of Timken Axle for Use Under New Public Service Railway Buses

Proper Materials Handling a Factor in Safety

The importance of materials handling among manufacturers is obvious. Scarcely less apparent is the prominence which marks this consideration among the operating companies and particularly with respect to shop and maintenance practice. For these reasons it is well to recognize what an important and serious factor materials handling is in the present day accident problem. In itself it is responsible for about one-third of all industrial accidents in the country and approximately one-fourth of the lost time. The annual economic loss involved is estimated at $250,000,000.

A number of pregnant suggestions on this subject were made by David S. Beyer in a paper which was presented at the annual meeting of the American Society of Mechanical Engineers in New York early in December. Among these were the substitution of mechanical handling of materials for manual handling wherever possible, the provision of necessary mechanical protection and safe working arrangements, designing and purchasing new equipment and proper emphasis on the human element as represented by intelligent supervision of the work in progress to avoid unnecessary chance taking, proper selection of men for the job they are doing and prompt first aid measures for minor injuries.

Ever increasing attention is being given to this subject by manufacturers and operating companies in the electric railway field. It is a field of effort which pays big dividends in the long run due to the reduction in damage charges and insurance rates.

Traction Progress Reviewed

"Engineering Achievements for the Year 1925" is the title of a booklet recently issued by the Westinghouse Electric & Manufacturing Company. H. W. Cope, assistant director of engi-

neering, is the editor. As stated in the introduction, the purpose of the publication is to give credit where credit is due and to enumerate some of the outstanding achievements made by the engineering departments during the past year. Practically every phase of the engineering activities of the Westinghouse company is covered and considerable attention is given to developments in railway traction, self-propelled cars and locomotives, such as the gas-electric and oil-electric, and to the many improvements in the gas-electric bus.

Date Set for Submission of Bids on B.-M. T. Cars

Feb. 15 has been specified as the final date for submitting of bids on 67 triplex car units for the Brooklyn-Manhattan Transit Corporation, Brooklyn, N. Y. As reported previously in the ELECTRIC RAILWAY JOURNAL, approval was secured on Dec. 17 from the New York Transit Commission of the general plans and type of triplex units which have been in operation for the last three months. The cost of the 201 cars or 67 triplex units is estimated between $4,000,000 and $5,000,000. After the bids have been received they will be submitted to the Transit Commission for its approval of the award and the contract and the plan for financing under which payment will be made for the cars.

Some New Haven Equipment on Order

The New York, New Haven & Hartford Railroad expects to receive about March 1 the seven electric locomotives ordered some time ago from the General Electric Company. Five of these are freight electrics and two are electric switchers. In addition there is on order at the present time by the New Haven the following electric equipment: 25 multiple-unit motor cars, Osgood-Bradley; 37 multiple-unit trailers, Osgood-Bradley; three electric switchers, Westinghouse Electric & Manufacturing Company, and five 73-foot combination passenger and baggage gas-electrics, J. G. Brill Company.

It is probable that the gas-electric rail cars will be used on various branch lines where traffic is comparatively light.

Metal, Coal and Material Prices

Metals—New York	Jan. 19, 1926
Copper, electrolytic, cents per lb	14.10
Copper wire base, cents per lb	15.00
Lead, cents per lb	9.25
Zinc, cents per lb	8.65
Tin, Straits, cents per lb	61.75
Bituminous Coal f.o.b. Mines	
Smokeless mine run, f.o.b. vessel, Hampton Roads, gross tons	$4.975
Somerset mine run, Boston, net tons	2.125
Pittsburgh mine run, Pittsburgh, net tons	2.05
Franklin, Ill., screenings, Chicago, net tons	1.875
Central, Ill., screenings, Chicago, net tons	1.425
Kansas screenings, Kansas City, net tons	2.30
Materials	
Rubber-covered wire, N. Y., No. 14, per 1,000 ft	$7.00
Weatherproof wire base, N. Y., cents per lb	18.25
Cement, Chicago net prices, without bags	2.10
Linseed oil (5-bbl. lots), N. Y., cents per lb.	11.90
White lead in oil (100-lb. keg), N. Y., cents per lb	15.50
Turpentine (bbl. lots), N. Y., per gal	$1.03

Farewell Party for E. R. Fitch

Ellery R. Fitch, for the last five years district engineer of the Westinghouse Air Brake Company, Westinghouse Traction Brake Company and the Safety Car Devices Company, located in St. Louis, has been transferred to New York City in a similar capacity. Mr. Fitch leaves a host of friends in St. Louis, and to show their appreciation they gathered on Dec. 31 and presented to him a handsome watch, chain and knife. An inscription on the back of the watch reads: "To a Regular Fellow, from the St. Louis Gang, 1925."

Twenty members of "the gang" also proceeded to "say it with poetry" and presented a framed testimonial of affection to their erstwhile comrade.

Rolling Stock

Georgia Railway & Power Company, Atlanta, Ga., has purchased five modern, low-step interurban cars for use between Atlanta and Stone Mountain, Ga. The cars will cost approximately $18,000 each.

Penn-Ohio System, Youngstown, Ohio, has authorized an appropriation for ten freight trailers designed according to specifications recently adopted by the master mechanics of the Central Electric Railway Association. The order for these cars will be placed with the Kuhlman Car Company at an approximate cost of $3,500 each.

Columbus, Delaware & Marion Electric Company, Columbus, Ohio, is securing two new chair cars for operation between Marion and Columbus. These cars are 62 ft. in length over all, all steel construction, weigh 51 tons each and have a speed of 75 miles an hour. They are parlor cars and incorporate all the latest equipment, windows being plate glass set in bronze frames and counter-balanced. Each window is 4 ft. in width and 2½ ft. long, equipped with a storm sash and hinged so that the windows may be washed. The rear platform of these cars is inclosed and has a door in the center of the car with a French window on either side, making an observation platform, and at the same time eliminating the entrance of dust. The main bodies of these cars will seat 27 persons and the smoker will accommodate eight persons. The cars are electrically heated and are equipped with both hot and cold water. The electrical equipment consists of four 145-hp. motors with helical gears and pinions to eliminate noise.

Trade Notes

J. H. Mahler recently joined the Electric Service Supplies Company, Philadelphia, as bus specialist. After serving in the World War Mr. Mahler completed the test course of the General Electric Company at Schenectady, N.Y., and the electrical engineering extension course at Union College, Schenectady, N. Y. He was connected with the research laboratory and Dr. Steinmetz for two years during the development of the lightning generator and high-voltage insulation tests; later Mr. Mahler joined the air brake engineering department of the General Electric Company at Erie, Pa.

Albert S. Richey, electric railway engineer of Worcester, Mass., has had reprinted for distribution his article "Electric Railway Costs and Fares Continue Stable in 1925," published in the ELECTRIC RAILWAY JOURNAL, issue of Jan. 2, 1926.

Donald J. Roder, formerly with the Michelin Tire Company, has joined the New York sales force of the India Tire & Rubber Company, covering the territory around Syracuse. Mr. Roder was with the Michelin company for the last twelve years. He is well known in the Syracuse territory.

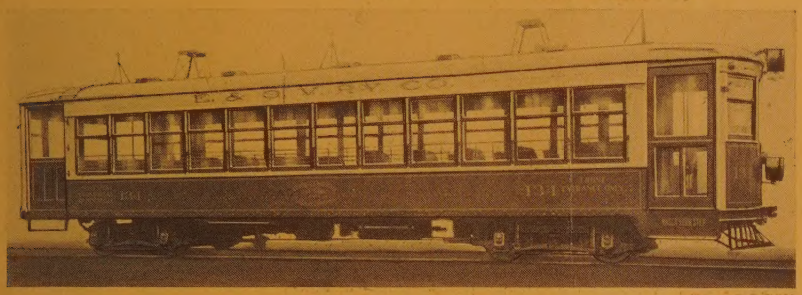
Okonite Company, Passaic, N. J., has opened a new office on the Pacific Coast. The new quarters, which will also be shared by the Okonite-Callender Cable Company, Inc., are located in the Hoge Building, corner of Second Avenue and Cherry Street, Seattle, Wash. This office, in connection with the branches already established in San Francisco and Los Angeles, places Okonite products and service within immediate reach of buyers all along the coast.

New Advertising Literature

Rome Wire Company, Rome, N. Y., is publishing a series of bulletins dealing individually with every type of wire. The first two, dealing with magnet wire and super service cord, have been widely distributed. The third, dealing with bare wire, is now ready for distribution. This bare wire catalog contains data and tables regarding construction, sizes, weights, current-carrying capacities and makes a handy book for reference. The Rome Wire Company will gladly send copies of any of these bulletins to those who express a wish for them.

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., has issued leaflet 20266 on "The Articulated Car of the B.-M. T. Lines, Rapid Transit Division." This four-page leaflet, attractively presented in two colors, illustrates the important electrical equipment, includes the wiring diagram of the articulated car and in addition to a complete description of the motor equipment and accessories elaborates on the importance of this equipment as representing the latest development for rapid transit service.

Dayton Mechanical Tie Company, Dayton, Ohio, has a booklet setting forth the advantages of mechanical tie equipment for use in paved streets. As stated in the foreword of the pamphlet, the purpose has been to show by the history of street railway tracks where wood ties have failed and why, and how these failures have suggested their own cure. The Dayton tie was evolved to obviate the failures resulting from the older type of equipment. Numerous illustrations are included in the booklet showing instances where Dayton tie equipment has been in service over a period of years with excellent results. Various costs and operation data on the mechanical ties are included.



Another Electric Railway Achieves Success with
MODERN CARS

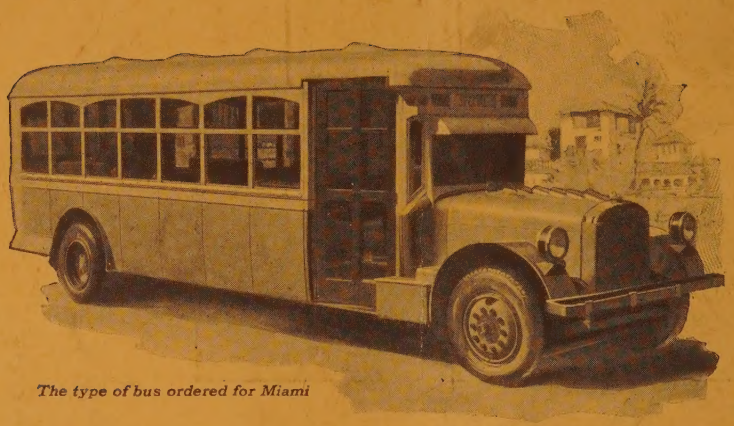
The Evansville & Ohio Valley Railway, in Indiana, placed in service six new modern light-weight cars built by the American Car Company and mounted on Brill low-level 77-E Trucks equipped with Brill Twin Links for the higher speed service. These cars weighed only 17 tons while those displaced varied in weight from 32 to 37 tons.

In the short space of a few months the economy in power and maintenance and increased riding due to the modern type cars has made the investment a most profitable one.

Public Patronage can be attracted by attractive cars, substantially built, and modernly equipped.

THE J. G. BRILL COMPANY
PHILADELPHIA, PA.

AMERICAN CAR CO. ST. LOUIS MO. — G. C. KUHLMAN CAR CO. CLEVELAND, OHIO. — WASON MANF'G CO. SPRINGFIELD, MASS.



The type of bus ordered for Miami

25 Gas-Electric Buses
ordered for Miami, Florida

The Miami Electric Railway is the second company in the South to insist on Electric Drive.

Railways have been quick to appreciate the value of this new form of drive because of its greater possibilities with regard to schedule speeds, operating economies and long life. Besides, electric drive appeals particularly to railway men because of their familiarity with electrical equipment.

These buses, being G-E equipped, have the advantage of the General Electric Company's long experience in the development of electric bus drive.

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GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, NEW YORK